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The Interim

REPORT

of the Advisory Committee
on County Growth Policy

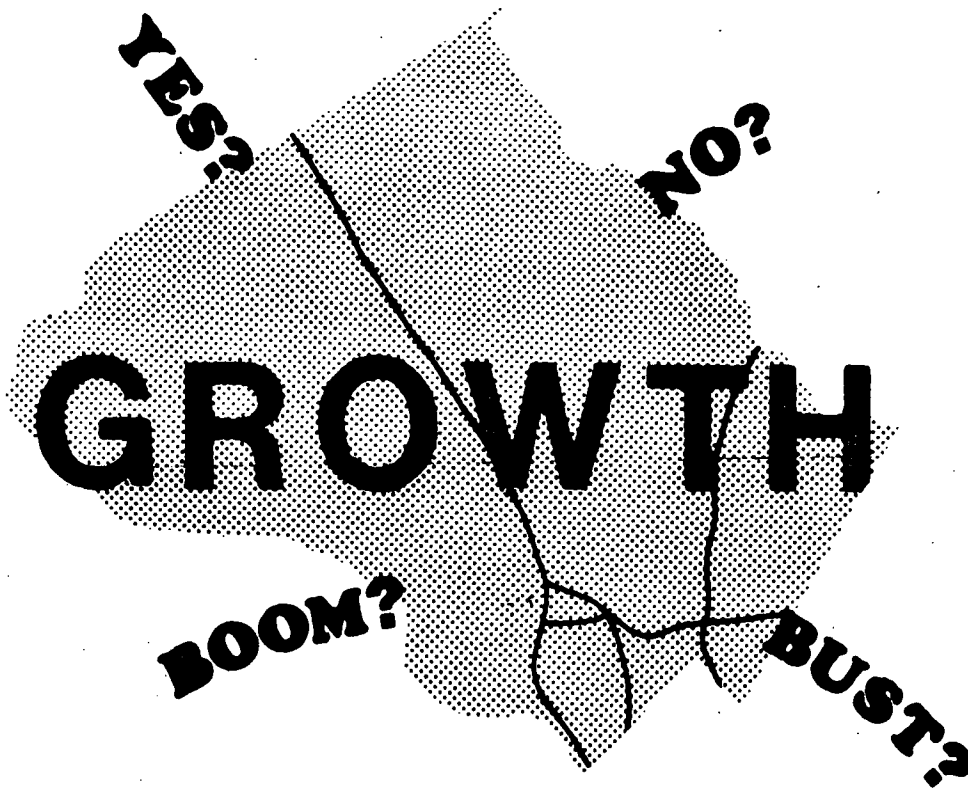
for

Montgomery County, Maryland

February 1974

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S U M M A R Y R E P O R T

of the

COUNTY GROWTH FORUM

A Forum for the citizens of Montgomery County
to express their reaction to the Interim Report
of the Advisory Committee on a County Growth Policy

Held February 23, 1974

Rockville, Md.

All Discussion Leaders, Recorders, and Hostesses at the Forum were members of the League of Women Voters of Montgomery County, Md., Inc.

Arrangements for the Forum were handled by the Coordinators to the Advisory Committee on County Growth Policy and the League of Women Voters of Montgomery County, Md., Inc.

S U M M A R Y R E P O R T

COUNTY GROWTH POLICY FORUM

Held February 23, 1974
Rockville, Md.

This report is presented as a summary of the discussions that were held on Saturday, February 23rd, at the County Growth Forum sponsored by the Montgomery County Planning Board's Advisory Committee on County Growth Policy.

Members of the fifteen groups were asked to discuss the Interim Report of the Advisory Committee, to establish priorities with respect to the issues raised, and to bring up issues not covered in the report or involving a need for change in emphasis.

We recognize that the participants had not had the opportunity to read the full Interim Report before the conference, but had seen only the Summary Report. This was a valid criticism frequently voiced, but the situation was unavoidable. However, many of the discussions did bring out material included in the report, and some of the questions raised are identified in the text. We will not attempt to repeat information covered in the report, therefore, but will refer to related sections where necessary. (IR = Interim Report)

The summary will deal first with the functional panel discussions of the morning workshops, then with the general sessions during the afternoon, and last with recommendations and conclusions. We hope this report will be helpful to those who attended the Forum, and to those who were not able to do so. Any questions or comments will be gratefully received.

I. MORNING DISCUSSIONS

A. COMMUNITIES

Priorities established

- Provision within the County of a diversity of housing, particularly for low and moderate income levels, but also including rental units, smaller units, mobile homes, and different types of housing for all types of people - the elderly, small families, singles, etc. There was recognition that government subsidy in some form may be required to achieve this goal, and that there will be opposition to it. (pp. 13-17, IR)

- The impact of new growth on existing neighborhoods and the preservation of the best in those neighborhoods while allowing for redevelopment. If the changes and adjustments necessary to allow for increased densities and other development are carefully planned and understood ahead of time by residents of the specific areas involved and the surrounding community, the fear of change can be lessened. (pp. 22-26, IR)

- Directly related to the above issues was the concern for provision of alternatives to conventional subdivisions, through more diversified zoning categories, economic mixtures, and better employment and transportation coordination.

This concern included support for a mixture of residential and commercial uses, but generally did not accept heavy commercial or industrial design near homes. It was felt that physical structures did not make a community, but could add or detract from it, and that all of the above, including people with a concern for each other, could add up to the creation of a "sense of community." (pp. 26-29, IR)

- The desire was expressed for more and better communication between citizens and governmental agencies, particularly planning agencies, to allow participation of citizens at earlier and broader levels of decisionmaking. This would allow each group to inform the other of their respective needs, and perhaps make the constraints that are necessary more acceptable. Specific suggestions made are included under "Recommendations." (pp. 28-29, 42-43, IR)

B. TRANSPORTATION

Priorities established

- Provision of more public transportation, primarily improvement of bus service, scheduling and routes. (p. 47, IR)

- Provision of better cross-County transportation, but with strong feeling against the building of more roads, especially 6-lane throughways. (pp. 44, IR)

- Continued support of the rapid-rail system (Metro). (p. 47, IR)

- Desire for a demand-responsive system such as dial-a-ride for the young, the elderly, and the non-driver. (Project TRIP)

- Recognition and acceptance that higher densities are necessary to make the rapid-rail system workable, especially around TSA's and CBD's. (p. 39, IR)

- Continued support of 70-S as the County's major growth corridor, recommending jobs and housing at either end to balance peak-hour flows. (p. 38, IR)

- Implementation of controls to prevent sprawl with willingness expressed to accept clusters, new towns, or planned development zones with mandatory reservation of adjacent open space, rural, or agricultural surroundings.

- Improvement of communications among agencies, between public and agencies, and among neighboring communities. Speci-

fically, these should include enumeration of public transit routes; cost of subsidies required from each level of government and how they affect the taxpayer; statistical comparisons of public vs. private transportation costs; and public education about the hidden as well as actual costs of all modes of transportation. (p. 36-37, IR)

C. ENVIRONMENT

Priorities established

- Consideration of environmental aspects, the resources and the constraints, in determining land use policy and as an integral part of community transportation planning. Planning is necessary in water needs, sewerage systems, etc., but such planning should include flexibility for change.

- Establishment of a mandatory, short-range water supply procedure in the County for emergency needs, and perhaps a different method for the long-term view. (pp. 54-56, IR)

- Acquisition of open space was held to be more important than its development for active use at this time, and once acquired, it ought not to be relinquished for other public uses. Responsibility for the development for recreation of "dedicated" land should fall on the private sector, not on the County, and developers should be encouraged to design park-like open space on their land. Requirements for open space at "site plan review" stage should be strengthened and extended. (pp. 74-76, IR)

- Favored tax status zoning (i.e., country clubs) ought to either be downgraded or the land be made more accessible to citizens.

- Provision of sewerage facilities for planned growth, and, once made, decisions should not be changed to meet the demands of

self-interest groups, particularly speculators. Much of the discussion centered on possible alternative sewerage systems. (pp. 56-61, IR)

- The need for new methods, short-term solutions, and/or alternatives of handling solid waste. The County should make a quantitative analysis of costs/tradeoffs and solid waste should be a part of the Adequate Facilities Bill. Consideration of solid waste as a supply of energy, rather than as a landfill. The use of disposables should be discouraged and the County should speed up its recycling efforts, with implementation. (pp. 76-77, IR)

- Incorporation by the County of the management of storm water as a major policy, aiming for 50-year protection instead of 10-year. Establishment of a division of responsibility for storm water management between the public and private sectors. Recommendation of reservoirs. (pp. 65-66, IR)

- Resolving of conflicts between energy consumption and environmental quality. Consideration of the County becoming involved in the development and use of new technology in energy conservation, and the development of alternative sources of energy it is not now using (i.e., solid waste). A need for energy impact studies of everything; a projection of needs. (p. 78, IR)

- Requirement of environmental impact statements for developments beyond a certain size.

- Development by the County of a data-gathering and interpreting system on the environment, based on the supply of resources and the present and potential demands for those resources.

- Preservation of historic landmarks. (p. 73, IR)

- Implementation of the Potomac River Protection Zone.

- Establishment of a State/National land use policy, within which the State could mediate zoning discrepancies.

- Education of the public regarding steps they can take as individuals or as groups to safeguard a quality environment.

D. CHANGES AND OMISSIONS

The following are areas of concern participants felt were not adequately covered in the Interim Report:

- There was a lack of reference in the report to the General Plan and its stated objectives, and to the need for conformity to Master Plans.

- Also noted was a lack of reference to rural and agricultural areas throughout the County and the need for preservation of the agricultural base.

- Many felt that the problems of coordination between County government and the several incorporated towns and villages which have their own planning authority should have been addressed.

- There was a lack of emphasis on "human" needs (social, health, etc.), as opposed to physical needs, such as housing, transportation, sewerage, etc.

- Protecting residents of established neighborhoods from rising taxes caused by the shortage of housing (partially due to the sewer moratorium) and other encroaching growth factors.

- More attention should be paid to up-County growth, especially in terms of new transportation facilities such as the outer Beltway or improvement in existing highways.

- Try to educate the public to understand that the quality of life they want, interpreted in the growth policy, is worth the financial allocation.

- The County should take steps to make sure that it has a handle on regulatory agencies and that laws and codes now in effect are enforced.

- A feeling of alarm of one group at the findings on sewerage and water quality. (pp. 56-64, IR)

II. AFTERNOON DISCUSSIONS

These groups found it difficult to come to consensus, but there seemed to be several areas of general agreement:

- Provision of a supply of low and moderate income housing, both to serve the needs of our present population and to move toward redressing the economic imbalances that have developed in Montgomery County.

- A need for coordinated effort on the part of the public and private sectors to get together and to include the citizen in their deliberations. Especially on the public side, areas of responsibility should be defined in order to avoid fragmentation.

- Participants felt that the public is currently willing to accept the fact of more controls to preserve their quality of life, and that changes in consumption habits, natural resource conservation, transportation patterns, and living arrangements are becoming increasingly necessary to accommodate both an increase and changes in the makeup of the population. Public education is necessary in this area. Limits on population were mentioned, but not thoroughly explored or generally accepted.

- Montgomery County's relationship to other area jurisdictions, its role as a part of the metropolitan region, the location of regional facilities, "fair share" housing, and all matters bearing on growth problems were considered to be extremely important.

- An adequate transportation system serving the needs of County residents is necessary, and relates to the regional questions mentioned above.

- Need for an orderly data base, so that the considerable number of studies, research projects, forecasts, etc., can be readily available instead of having to go to multiple sources. (M-NCPPC is currently working on such a project, and much of this data is being computerized.)

- Learn from experiences of new towns, such as Columbia, Reston, etc., especially in relation to development of up-County, or new, planned developments.

- Opposition to high-rise, high density development.

III. RECOMMENDATIONS TO THE ADVISORY COMMITTEE FOR FURTHER STUDY

- Provide alternative models, or scenarios, of different courses of action, including costs where possible, and show the consequences of each for the future.

- Isolate successful experiences in zoning, community development, subdivision planning, etc., and apply to new or redeveloped areas. Include experiments, as mentioned in report, p. 11.

- Provide more information on fiscal questions and the impact of growth (population) on tax policies and revenues.

- Look more fully into the Development District concept as a tool for controlling the use of land.

- Look into the concept of transfer of development rights.

- Encourage firmer commitment on the part of the County to projects in the Capital Improvements Program (CIP), so that both builders and citizens can depend on it.

- Provide a resource through which the citizen can become better informed on how County plans and policies relate to his

community, perhaps an ombudsman, or a community organizer in each Master Plan area. This would allow citizens, if they took advantage of the idea, to gain a broader perspective of the planning process, and to clarify problems on both sides.

- Property taxes should implement public policy; the need for services should determine the revenue to be raised, rather than having services limited by the available revenue.

- It might be advisable to address the areas above and below the proposed outer Beltway separately in terms of growth policy.

- More diverse elements should be participating in growth policy decisions; is it possible to include low income and less mobile residents?

- Communication with the public should be in general terms, since it is not possible for the average citizen to understand the complexities and technical problems of many decisions.

- The growth policy recommendations should be comprehensive.

- There should be more public involvement in, and monies spent on, growth problem areas. Pilot projects should be funded.

- The effect on the County of State and Federal regulations should be recognized.

IN CONCLUSION -

There were many other specific suggestions and some conflicting opinions, all part of an apparently genuine groping for solutions which would be most beneficial to the County as a whole and as it grows and matures. There was a striving to avoid pitfalls and problems of other jurisdictions by looking ahead, and by trying to make the right choices for the present.

The attitude of the citizens attending the forum was not one of anti-growth, or no growth, but one of a willingness to manage growth where possible, or at least to direct it. Many felt that market forces should be allowed to play a larger part in directing growth, particularly in terms of housing and employment opportunities. A reaction to the sprawl which has been experienced in the last 10 years was very evident, but many obviously like what Montgomery County has to offer, and do not wish to substantially change its character.

There appeared to be enthusiasm for the County Growth Policy process. The citizens especially appreciated being asked for their participation and suggestions at this early stage, in contrast to the usual procedure of testifying towards the end of the decisionmaking process, where no substantive changes could be made and their only recourse was to support or to oppose the recommended policy. Many felt that their past input was generally centered on a specific plan or project and not on the complex interrelationships necessary to make knowledgeable decisions. They hope that this is a step in remedying that problem.

The Advisory Committee appreciated the response to the forum by so many residents, and invites you to participate in its further deliberations. Several working committees will be set up to follow through on the findings and issues identified in the Interim Report, and on those identified and expanded upon by the forum participants. Specific recommendations for growth policy priorities will be made to the Planning Board.

If you wish further information, please call the Advisory Committee coordinators at 589-1480.

Respectfully submitted,

Joanne Jacka, Patricia Johnson, Patricia Plunkett
Coordinators, County Growth Policy Advisory Committee
3/11/74



MONTGOMERY COUNTY, MARYLAND

COUNCIL HEARING ROOM • 100 MARYLAND AVENUE, ROCKVILLE, MARYLAND 20850 • 301 279-1231

Public Hearing, Thursday, January 23, 1974

Council Hearing Room (8:00 P.M.)

Growth Policy Report

<u>TIME LIMIT</u>	<u>SPEAKER</u>	<u>REPRESENTING</u>
1.	Dr. Royce Hanson	Montgomery County Planning Board
2. 4	Mr. John Jordan	Coordinating Committee on Friendship Heights
3. 6	Mr. Howard P. Layer	Montgomery County Civic Federation
4. 3	Ms. Rosalie Crenca	Individual
5. 4	Mr. Herbert Fockler	Silver Spring Development Council
6. 4	Mr. Anthony Czajkowski	Bethesda Coalition
7. 4	Mrs. Sandra Morse	Tamarack Triangle Civic Assoc.
8. 3.	Mr. Harry J. Davis	Individual
9. 4	Mr. Ray Mahafeey	Silver Spring Chamber of Commerce
10. 3	Ms. Marilyn Piety	Individual
11. 4	Mr. Jim Goeden	Bethesda Chevy Chase Chamber of Commerce
12. 4	Mr. Scott Kane	Chevy Chase Section #4
13. 4	Mr. Donald P. Cleary	Woodside Forest Citizens Assoc.
14. 6	Ms. Lee Warren Shipman	Environmental Task Force of the Md. Coalition
15. 4	Mr. Ralph Bernstein	Luxmanor Citizens Assoc.
16. 3	Mr. Dan Eberly	Individual
17. 4	Mr. Robert Bor	Parkhills Civic Assoc.
18. 3	Mr. Walter Petzold	Individual
19. 6	Ms. Patricia Gavett	League of Women Voters
20. 4	Mr. Thomas Broderick	N. Bethesda Congress Citizens Assoc.
21. 4	Ms. Rose Mary Allen	Sligo Civic Assoc.
22. 6	Mr. William E. Coyle	Montg. County Chamber of Commerce
23. 3	Mr. William Mohler	Individual
24. 3	Ms. Julie Davis	Individual
25. 4	Ms. Betsy Taylor	East Silver Spring Citizens Assoc.
26. 3	Mr. Clarence Kettler	Kettler Brothers, Inc.
27. 6	Ms. Linda Fohs	Growth Advisory Committee
28. 4	Mr. Louis Feldner	Citizen's Planning Committee

<u>TIME LIMIT</u>	<u>SPEAKER</u>	<u>REPRESENTING</u>
29. 3	Mr. Harry Leet	Individual
30. 6	Mr. Edgar Duncan	Suburban Maryland Fair Housing

NOTE TO SPEAKERS

Before beginning your presentation, please state your name and address clearly for the record and spell any difficult or unusual names.

The amber light on the timing box in front of you will be turned on when you have 20 seconds left in which to finish your presentation. The amber light will go out and the red light will come on when your time is up and will stay on, should you run over.

CC/cas

The Planning Board believes that establishing a well-understood and practical system for managing growth is the most important public business before Montgomery County. The purpose of our First Annual Report on Growth Policy, and the year's work by the Citizens Advisory Committee that proceeded it, is to achieve that objective.

The first report does not contain all the answers - nor probably even all of the questions - necessary to fully address all the issues of growth. What it does attempt to do is to lay down a coherent intellectual and policy framework through which the county can systematically address the strategic issues of growth management. Thus, our first request of the Council is that it accept the framework for growth policy which is contained in the report as one which may be used for the next few years, at least. If approved, we would expect to elaborate upon it, and more fully develop proposals and plans to deal with each element of growth policy.

Secondly, our report suggests that Montgomery County take official cognizance of the likelihood that many future public policies will have to forthrightly address the shortages of energy, the issue of air quality, and the probability of long term inflation. This means that if you accept our finding that these external forces will have a pervasive influence on the private market and the public fisc, you will direct that our land use decisions address these problems. Thus, our transportation, housing, sewerage, and other policies should indicate how they relate to the issues raised in the report.

Third, the report recommends that our major actions in the "first round" of growth policy concentrate on the next six years. This is an "interim" period of economic, environmental and transportation system constraints. These constraints arise from the "lead times" necessary to take and realize major strategic system improvements, such as the AWT, Metro, a working bus system, and the corridor road system.

If you accept this recommendation, you will be indicating a high priority on these elements of county infrastructure, and be, in effect, directing county agencies and delegations to honor that priority. You will also be asking for plans and decisions that will make possible some additional, well-planned growth in a few down-county growth centers. This means, among other things, that a method must be found to provide a sewer service priority for such areas through actions you take in the Ten Year Water and Sewerage Plan.

Fourth, we have tried to more precisely identify the character of housing demand in the county and point up the improbability of our being able to meet that demand and need through existing policies. We believe that you should expect housing policy proposals to address the issues raised in the growth report, and that you should specifically direct us, with the county government, to develop a housing element in the next growth policy that details a strategy for meeting housing needs, including new legislative proposals.

Fifth, the report addresses the issue of community as it relates to the linkage of public facilities. If you tend to agree with the report, then you should direct that forthcoming master plans deal with the community issue more directly, and that the CIP give particular attention to the "community building" aspects of public capital investments.

Sixth, in this report we have tried to come to grips with the "quality of life" concept as a means of assessing the impact of various kinds of growth on people. We urge the Council, through its forthcoming budget and program discussions to allow us to pursue the report's effort to translate this concept into useable measurements which we can utilize in making future growth decisions. We are cognizant of the grave difficulties in devising measurements that are reliable and defensible as the basis for decisions affecting private property, but we believe there is a clear need and public desire for them, and that their development will assist us in providing a more informed public and better decisions.

Seventh, the Council should direct that the growth policy report's findings on trends and problems, to the extent the Council agrees with them, be the basis for the development of other major county policy documents, such as master plans, the Ten Year Water and Sewerage Plan, the CIP, PSP and Financial Plan, county comments on state and federal public works programs in the county, etc., and insist these be more closely related to each other.

Eighth, we hope the Council will endorse our proposal to create, in COG, a Regional Growth Policy Board, as a means of coordinating and

reconciling the growth policies of the areas' local governments. Such a means is needed if we are to develop a regional growth allocation plan as an underpinning for specific actions which we or others may wish to take to manage the kind or amount of local growth. In addition, the advent of strong regional bodies dealing with air quality, water quality and transportation requires a regional board capable of taking a comprehensive look at how these functional activities relate to each other and to broader social, economic and environmental needs of the region.

What we think is of central importance is the recognition that growth policy making is an on-going, continuous process. It must be regularly reviewed, revised and updated to account for changing events and expanding knowledge. Growth is a very complex phenomenon. It will not stop while we analyze and treat it. We must be ready to abandon prior judgments when experience or information suggest their error.

Our concern is that growth policy be converted from rhetoric to practical governance. This requires a clear public understanding of what we are about. There is no one grand panacea or method that will cure everything. We are well out on the cutting edge of this subject now. We will be first to acknowledge, therefore, that our report does not deal with everything of importance. There are many methods that are desirable that are not yet available to us, such as a working cost-benefit model, and better indicators. There are some problems we are not yet ready to deal with, but have identified as high priorities in the next round, such as air quality.

Testimony before the Montgomery County Council on
Growth Policy

presented by: Patricia A. Gavett, Pres.
January 23, 1975

Mr. Hovsepien and members of the County Council, the League of Women Voters of Montgomery County has participated in the Growth Policy process in one way or another almost since its inception. We feel that most of the issues we consider important have been dealt with and are pleased with the conclusions reached by the Growth Policy Advisory Committee and their seven policy directions, as interpreted on p. 9 of "Framework for Action." We find ourselves in agreement with almost all of them.

We feel strongly that the protection of the natural environment and the conservation of energy must take precedence over the forces of growth when they are in conflict. We support long-range planning for Montgomery County and the Washington metropolitan area and the control of growth through strengthened implementation of the General Plan, strict enforcement of zoning, and insistence that development proceed only where adequate public facilities shall be available.

The importance of protecting the natural environment is a concept whose value has only recently been acknowledged, as the report points out. In this country, where we used to feel that our land and natural resources were limitless, growth was considered inevitable and necessary. Growth was not directed, because it was felt that the operation of the forces of the market place would provide development in those places which were most logical. We now know that this had a number of unfortunate consequences. Development was scattered across the landscape wherever property was available at good prices and government was expected to follow with the necessary roads, schools, and water and sewer networks. Montgomery County has filled the

planning vacuum that existed formerly with techniques for advance planning such as the Capital Improvements Program and the Ten-Year Water and Sewer and Ten-Year Solid Waste Plans. We find, however, that the previous unplanned use of the land has narrowed our options now for the placement of large-scale public facilities. The searches for suitable sites for landfills, land treatment, sewage treatment plants, the central processing facility and sludge disposal over which Montgomery County has agonized show us the need for preserving land for all the various uses we can foresee to serve future growth. If we do not develop and implement sound environmental policies and assume the necessary expense, we will find the costs are even higher in the future and the options fewer.

Necessary environmental policies must include strict adherence to air and water quality standards. Here again, as is the case with siting of large-scale public facilities, the future costs for cleaning up our streams and rivers and for controlling air pollution will be much less if we address the problems now.

We agree with the Growth Policy Report's conclusion that after the environment, the most important determinant of growth--its staging and location--is transportation. We agree that maximum use must be made of Metro transit stop areas if the system is to prove successful. As large a number of people as possible should be able to reach each station easily and to ride Metro to jobs, shopping, social service agencies, cultural events, etc. Metro construction will be slowed because of economic constraints and the full extent of the system cannot be realized, the impetus will be even greater to concentrate numerous activities in the down county transit station area. We have testified in support of the Development District as a tool for Montgomery County to use to accumulate land at transit stops and control development there. In doing this, however, we must realize that one of the trade-offs may be the loss of older low and moderate cost housing stock. The stated goal of preserving neighborhoods and upgrading older housing gives way to the goal of increasing density in desired locations. With new housing of this type currently not being built in today's

market, governmental action will be necessary to relocate these residents. This effort will require coordination of the programs being developed by the Housing Opportunities Commission and the county's offices of Housing and Community Development.

We question whether the growth policy process investigated the needs of historic black communities located in such areas as Western Upper Montgomery County (WUMCO), Sandy Spring and Olney. Many of these people have roots in Montgomery County which date back to Civil War days. Growth has often ignored their communities as development has pushed up to and often surrounded them. In some instances, nothing has been done until publicity showed conditions to be so severe that the redevelopment of Tobeytown or the current research into sewer alternatives in the WUMCO area were finally undertaken. The point to be made is that we see no discussion in the Growth Policy of the specific needs of such communities. We urge that a conscious effort be made to expand the policy to include them.

We see economic constraints on implementation of the Growth Policy, as we mentioned regarding transportation. Such constraints will necessitate setting priorities and addressing first those needs which are most pressing. In order to set priorities realistically, there will have to be a great deal of cooperation, coordination, and sharing of information among agencies and departments in the county, as well as more cost sharing by private and public interests. We know, as was pointed out in the report, that there are instances of competing and contradictory policies and programs contained in the Capital Improvements and Public Services Programs. These documents must not serve merely as catalogs of everything available from your county government. Programs and the building of facilities must be meshed to eliminate duplications and make maximum use of the county's personnel and financial resources to best serve the people.

Montgomery County has many valuable tools for guiding growth, both in space and in time. Maximum effort must be made in planning for their use to include the public in the decision-making process. We can only resolve conflicts in policy by determining which course will satisfy the needs of the greatest number of county residents, as they themselves see those needs. In making trade-offs and subjugating one set of priorities to another, we must make certain the public is informed of the reasons for doing so and are allowed a voice in the outcome. The Growth Policy process has included citizens from the beginning. We see a continuing need for this, as well as for a widespread and continuing citizen education process.

TESTIMONY OF EDGAR N. DUNCAN, REPRESENTING SUBURBAN MARYLAND FAIR HOUSING,
BEFORE THE MONTGOMERY COUNTY COUNCIL REGARDING "FRAMEWORK FOR ACTION" -- THE
FIRST ANNUAL GROWTH POLICY REPORT OF THE PLANNING BOARD ---- SEPTEMBER, 1974

January 23, 1975

President Hovsepian and Members of the Council:

My name is Edgar Duncan. I reside at 3324 Estelle Terrace in Wheaton. Tonight, I am representing Suburban Maryland Fair Housing, a private nonprofit organization dedicated to achieving equal and adequate housing opportunities in our County.

Historically and presently, high housing costs in our County have excluded lower-income families so that we are not now providing housing for:

1. people who work in the County;
2. people who grew up in Montgomery County but cannot afford, as young adults, to establish homes here;
3. our fair share of lower-income families within the greater metropolitan area.

Our concern is the tragic deficit of moderately-priced dwelling units in the County today. For the future, we are concerned too that, although the Growth Policy Report states several times that Montgomery County is not accommodating its fair share in the metropolitan area of families at the lower economic levels, this issue is not even included in the summary statement. Suburban Maryland Fair Housing hopes this does not represent the County's willingness to allow the current situation to continue or to worsen.

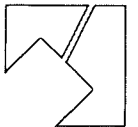
How can we achieve growth that will provide for the housing needs of low- and moderate-income families? Our organization is happy to endorse the five-point program outlined on pages ⁷⁸⁻⁸⁰~~89-91~~ of the Growth Policy Report. As we advised the Council in our letter of November 14, 1974, we urge prompt adoption of County programs within these guidelines, especially the use of Items 4 and 5 to insure expanded building of Moderately-Priced Dwelling Units to meet both our County's urgent need now and to provide a balanced housing mix adequate for expected regional growth. Sewage connections and subsidies are potent tools which can and should be used to achieve this housing balance. By the same token, we oppose the proposal on pages ¹⁰⁸~~107-110~~ which would limit availability of sewage connections to those affluent enough to absorb the cost.

We certainly endorse the imperatives stressed in the Report that there be better coordination at the State, Regional and County levels - particularly at the County level, in view of the requirements of the Federal Housing and Community Development Act of 1974.

Thank you for the opportunity to present our views and to work with you toward the goal of improving the quality of life for us all.

Interim Report
of The
Advisory Committee
on
County Growth Policy

February 1974



Advisory Committee on County Growth Policy

Sigmund Berkman	John S. Jordan	Malcolm Rivkin
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Harvey Eisen	Leonard Kapiloff	Philip J. Rutledge
Herbert Fockler	Milton Kettler	Ronald S. Ryner
Linda Fohs	Eleanor Leavitt	Gordon Smith
Scott Fosler	Ray E. Mahaffey	Cleonice Tavani
Mable Granke	Jesse L. Maury	Helen Thompson
Alexander J. Greene	Gerald R. Mylroie	Joanne C. Turner
Robert A. Harper	John W. Neumann	Patricia B. Willard
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	Wolfgang Price	

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	Esther P. Gelman, <i>Vice Chairman</i>	
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	Richard E. Tustian — <i>County Planning Director</i>	
	John Hoover — <i>Community Relations Officer</i>	

Coordinating Consultant

League of Women Voters of Montgomery Co., Md., Inc.

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About the Report

Last September, the Planning Board asked a group of citizens to advise it on growth policy for Montgomery County. In the intervening months the committee was organized into three panels—communities, transportation and environment. It conducted two public forums to hear from groups and individuals, consulted with experts on growth problems, and reviewed staff reports and other materials.

This interim report is a benchmark in the work of the Advisory Committee. It sets forth the major preliminary findings of the three panels of the committee with respect to the conditions which the County must address in arriving at policies for managing growth. It also outlines a number of major issues which need to be resolved in formulating county growth policies.

This interim report is published now so that before the Advisory Committee turns to the next phase of its work it can have the benefit of public discussion of the findings and issues. In particular, the Committee is interested in the extent to which its findings are accepted by the citizens of the County as a sound basis for growth policy. It is also interested in whether its panels have stated the issues in a fair way that facilitates discussion of alternative policies. Finally, the Committee would like to have help from the public in ranking the issues according to their importance so that a major effort can be made to deal with first things first.

On February 23, 1974, the Committee and the Planning Board will sponsor a County Growth Conference at the County Office Building in Rockville. Representatives of organized groups in the County and individual citizens will be invited to attend and to participate in a thorough discussion of this report. Associations are also urged to make the report the subject of at least one meeting and to submit comments to the Committee.

We emphasize that this is an *interim* report. It is meant to generate informal debate so that a final report can be based on a better and more precise deliberation of issues.

After the conference, the Committee will resume its deliberations and by June submit its final policy proposals to the Planning Board. These proposals will be published and transmitted to the County Council in August, together with the Planning Board's first annual report on growth and a recommended county action program. The County Council will hold public hearings on these documents and is expected to adopt a county growth policy in October. As adopted by the County Council, the growth policies of Montgomery County will provide a comprehensive, continuing and strategic approach to managing the processes of growth and change.

In a broad sense, growth policies will regulate the amount, location and staging of growth. In a more specific sense, they will establish policies to be followed by the Planning Board in the prepa-

ration and execution of its work program, including preparation of area and functional master plans, new zoning ordinances or regulations of land use, the acquisition or development of parkland and open spaces, creation of 40-50 public swimming pools, arts centers, etc. Growth policies will also establish the basis for the Ten Year Water and Sewerage Plan, the Capital Improvements Program (CIP), and some activities in the Public Services Program of the County. It will set the County's position with regard to various State plans and programs, such as the Potomac River Basin Plan, the Transportation Needs Study, and the Five Year Construction Program. It will also provide the framework for County cooperation in regional agencies such as the Council of Governments and the Washington Metropolitan Area Transportation Authority.

These policies will be revised annually, so that we can adjust to unforeseen events and better knowledge. This report, therefore, is the beginning of a continuing process of developing and perfecting the ability of our County to manage its future in the public interest.

Royce Hanson, *Chairman*
Jack Alfandre
Thomas M. Anderson, Jr.
Esther P. Gelman
Helen M. Scharf



General Findings

The findings and issues defined by each panel are presented separately in the reports that follow. Some matters, however, were of concern to all three panels, or are basic to the entire effort. These findings are reported here as general findings and issues which pervade the entire spectrum of growth policies.

Finding I

In the past, our attitude toward population growth assumed almost inexhaustible resources and that progress lay in the exploitation of this abundance. We now are beginning to recognize that our land, water and air are all limited, and that in the future, progress will be based on our ability to manage these resources.

At national scale, the energy crisis demonstrates this major reorientation. At the local level, the sewer moratorium has dramatized the same basic point. Every level of government is currently involved in developing new approaches to the exercise of public responsibility in the management of limited resources and to enhance the quality of life. The Congress is considering national land use legislation. The Maryland General Assembly is being asked to enact a State land use law. We are involved in formulating county growth policy and the Council of Governments is examining metropolitan growth policies.

National requirements for clean air and water have set in motion efforts to revamp the character and processes of controlling development. In the public forums held by this Committee, in expert testimony to the panels and in other media, both national and local, there is evident a new appreciation of resource limitations, and of the importance of improving the order, appearance and convenience of our man-made environment.

As a consequence of these converging forces of nature and opinion, new growth will be more tightly controlled, more closely planned and carefully channeled than ever before in our history. *Whether to control growth is no longer at issue; the issue is how to govern it in the public interest.*

ISSUES

1. *Should local population limits be applied to minimize pollution and the use of environmental resources?*

We must determine the extent to which the County's natural systems limit policy options. The viability of alternative policies ranging from unregulated growth to no-growth depends very much on the capacity of our resources to serve growth or absorb its waste. Growth requires land, water, energy and building materials. It generates pollution.

In some cases, technology can conserve or expand the supply of a resource or it can reduce the amount of pollution which is generated and, thereby, use more efficiently the holding capacity of the environment. There are situations, however, where a technical solution is not available. Even where technology can overcome natural constraints, it costs something. In those situations where technology is unavailable or is too costly, a choice may have to be made between risking the depletion of a resource and continuing to pollute or stopping new development. Examples: it has already been necessary to institute a building moratorium due to the lack of sewage treatment capacity and sewage overflows; 1975 air quality standards may be virtually unattainable, even without further development.

A close examination of the relationship between population, resource depletion and envi-

ronmental degradation may reveal that some kinds of growth have a more adverse environmental impact than others. The issue may then become one of trying to limit some kinds of growth more strictly — either by discouraging it from occurring, or by trying to offset its environmental effects.

2. *Does the recognition of scarcities imply a need to change our consumption habits?*

The growth of population alone is not the complete index of environmental impact. The rate of consumption is a vital factor. If the present population increases its per capita consumption of resources or generation of waste, that can have the same impact on resources that an increase in population could have. This is especially so if, as population grows, resource consumption or waste generation is reduced.

For example, our per capita consumption of water and energy has grown faster than the population. Water and energy-saving stretch precious resources. Since consumption of water and energy also produces major pollutants, reduction of consumption can reduce environmental degradation. This, perhaps, can even make some expensive technological "solutions" unnecessary or less costly. If each Montgomery County resident used only half the water now consumed, there would be no sewerage crisis and no immediate need for interim treatment facilities. The need for an advanced wastewater treatment plant would be reduced or postponed.

3. *To what extent is the public willing to pay the costs, in taxes, personal living expenses, and pattern of living that may be necessary to have a high quality environment? Can payment of such costs result in economic as well as environmental benefits?*

In one sense, most environmental problems are manageable if we are willing to pay enough for the technology or the time involved. In the short and long run, that may mean rationing, higher taxes and prices, doing without, doing less, or doing it differently.

The cost of a high quality environment must come from somewhere. Some costs will be tax supported, such as sewage treatment, solid waste management, storm water management, and the administration of environmental controls. Other costs are paid privately, as in the price of cars with emission controls or the price of houses built in developments which meet environmental quality standards. The costs to the builder of acquiring and dedicating parklands and buffers, of retaining storm water, of treating wastes, or preserving an historic site are normally passed on to the consumer.

Environmental quality also requires changes in personal and corporate behavior, from returning beverage bottles to shifting from use of a personal auto to car pooling and public transportation. As suggested above, one important way of improving the environment is to alter our patterns and volume of consumption.

By no means should all these changes be looked upon as "costs." Some may represent savings. Other actions taken to improve the environment may produce other benefits to individuals or the public. Better on-site and basin-wide storm water management may represent not only a reduction in future costs of floods and flood control, but may produce great values for recreation and even generate a more favorable revenue base. Thus, environmental and resource conservation measures should be evaluated in terms of their benefits as well as their costs.

4. *What is the nature of land use, environmental and other regulations or actions needed to protect and conserve our non-renewable resources?*

Increasingly, people are questioning traditional methods of reconciling private property rights and the public interest. There is much discussion of a "Land Ethic," and of thinking of land in its legal sense, as a resource instead of a commodity. The effectiveness of zoning and other regulatory systems needs to be evaluated in terms of their ability to achieve growth policy objectives. New ideas, such as land banking, development districts, impact zoning, environmental impact assessments and performance standards are being discussed with great interest. Both state and federal legislatures are formulating laws to deal with overall planning processes and with "critical" areas.

In Montgomery County, our land use policies have become increasingly sophisticated, involving not only new zoning and subdivision regulations, but sector planning, use of the Ten Year Water and Sewerage Plan, the CIP, site plan review, an Adequate Public Facilities Ordinance and a Moderate Price Dwelling Unit Ordinance. The County is also embarked on an extensive effort involving storm water management. These policies, however, may be insufficient to the tasks before the County.

It will be necessary, therefore, to take a hard look, not only at the tools themselves, but at the basic nature of our system of controlling the use of land and other environmental matters. This is especially important in those areas that regulate densities, staging, appearance of developments, historically or naturally sensitive areas, and the relation between elements, such as the air quality

or water quality consequences of land use.

Another important question deals with how and when we apply various standards and regulations of environmental impact. Some measures surely need to be taken in defining growth policies in the first instance. These may be either legislative or administrative in nature. Other steps can perhaps best be taken at the master planning stage, while still others should be applied at the point of zoning, subdivision, site plan review, or at application for building permits. Finally, there are enforcement activities which are continuing, rather than sporadic, in nature.

The ultimate test of growth policy is its ability to be carried out. This involves the development of practical, fair and enforceable measures that fit together into a coherent system capable of sensitive and timely response to public policy.

Finding II

Montgomery County's future is closely tied to that of the Washington Metropolitan Area and the State of Maryland. Federal, State and regional policies and the problems of our neighbors cannot be ignored in devising our own policies to manage growth, nor can the fact that our own economic and political role in the region and State is changing.

Many of our citizens are dependent upon other jurisdictions for work, business and leisure. Our economy is entwined with both State and region. A major facet of growth policy for the County is to clarify our relationship and responsibility to national, State and regional growth issues, such as housing, transportation, employment, and environment. We cannot solve all of our "local" problems internally. Our growth policy must not only address those things we can do for ourselves

and do alone, but it must also devise strategies to follow in protecting our interests and exercising our responsibilities in metropolitan, State and Federal political arenas.

ISSUES

1. To what extent can we have and manage a county growth policy?

Many of the things which attract people to Montgomery County and determine where they settle are not fully within the County's control. Federal employment, for instance, is an economic generator operating from a base of national policy. While the County may encourage or discourage a federal installation, it cannot always determine its location, size, or design. Major public facilities, such as interstate highways, commuter rail, and the advanced wastewater treatment plant require State decisions or concurrence. The degree to which Federal and State actions in the County are not responsive to County interests limits the effectiveness of local growth policy.

On the other hand, one objective of local growth policy should be to try to influence the actions of higher levels of government.

One task, therefore, is to delineate those areas where the County has the last word on growth, and give equal concern to those areas where it had better get in the first word with the State or Federal government. It may also be necessary to identify areas where, in order to control growth properly, the County needs more legislative authority than it now possesses, and other areas where State or Federal action is appropriate and needed. Another aspect of this issue can be seen in the area of environmental quality. The County needs the pressure of national and State standards

in order to do its own part effectively. Dealing with auto emissions, for instance, requires Federal policies, guidelines and deadlines — especially in an interstate area like ours. The abandonment or postponement of federal action could severely cripple local policies.

2. What is the County's responsibility within the metropolitan area and State for meeting the human and social needs of the regional and State population?

Montgomery County is the most affluent county in both Maryland and the metropolitan area. Proportionately, it houses fewer poor and dependent people. In spite of this, Montgomery County is no longer a bedroom suburb, populated largely by commuters to downtown jobs. The economic and political role of the County in the region and State has undergone a basic change in the past two decades. It is economically diverse, with more than half of its resident labor force employed in the County. It contains several major retail centers and it produces a share of the State's revenue far greater than its proportionate population.

More important, however, is the question of whether the County is willing in its growth policy to extend the "fair share" concept, recently applied to federally subsidized housing, to cover the many dimensions of growth — low income housing, health facilities, welfare families, etc., and agree to some "fair" regional allocation of the human "problems."

In State affairs, the responsibility may ultimately be assumed through the tax system, but in the region where no fiscal equalization is yet possible, a different and more direct approach may be suggested. Questions may also be raised about

the "right" (moral or legal) of the County to limit its growth if the consequence is to choke off opportunity for better housing and living standards for many residents of neighboring areas, many of whom are potential residents of the County.

3. What impact will national and regional resource scarcities have on county growth policies and environmental quality?

Water is essentially a regional resource, and the amount available to the County cannot be determined solely by the County. Regional shortages of natural gas or of other fuels will constrain growth without reference to County interests, except as those interests are expressed politically in the places where allocation decisions are made.

In some cases, we may be able locally to offset the regional or national scarcity. We might, for instance, utilize solid wastes as fuel to generate power, or convert sewage and other organic wastes to natural gas. We might also augment our water supply as a bi-product of our storm water management system. We should however, analyze resource scarcities which will limit our freedom in devising policies. We should also examine the consequences of those scarcities and seek some suitable local alternatives for addressing them.

4. How should our growth assumptions be modified to account for the energy shortage?

While much about the energy crisis is unclear, it seems unlikely that it will be resolved for several years. The national policies designed to reduce energy consumption will affect both regional and County rates and patterns of growth. The reduction of fuel supplies for automobile travel and home heating not only has implications for our

transportation system, but for densities of development, especially near public transportation facilities. Higher densities could mean economies in fuel for both travel and heating. Metro, plus its extensive bus system, is in itself a major user of energy.

The energy shortage also poses problems in reconciling energy conservation with other environmental objectives of growth policy. Heavier dependence on energy derived by coal could produce a more serious air quality problem. Higher densities in some areas may contribute to the degradation of local environmental quality by increasing congestion, noise, air pollution and adverse visual impact unless strong measures are taken. In contrast, dispersal of people into low density developments may create more and longer auto trips, with increased degradation of area-wide air quality. In any event, we cannot assume that all the energy we may want will be available — thus growth policies must be evaluated in terms of their energy implications and their viability in the face of the energy shortage.

Finding III

There is an array of governmental policies which influences or directs County growth, but there is no comprehensive policy designed to marshal all public efforts to manage growth in terms of publicly understood and accepted objectives.

We mentioned above that all levels of government are involved in influencing growth within the County, and that the County itself is now pursuing many policies which affect growth. The point is that growth policy is not starting from scratch, but from an existing, ongoing set of poli-

cies and a complex intergovernmental policy making system.

For the most part, the existing growth policies of the County are contained in the General Plan and Area Master Plans, the Ten Year Water and Sewerage Plan, the CIP, the adopted regional system for Metro, the Twenty Year Needs and Five Year Construction Programs of the State Department of Transportation, and the cumulative actions of the County government in regulating land use. State and Federal transportation, health and environmental policies, and decisions with respect to the location of these government installations and offices must be added to our own policies.

What these policies do is indicate areas of no-growth or limited growth, assign intensities and allocate public resources. Up to now, there has been little "staging" of growth, and relatively little fine tuning of the relationship between growth and resources, either fiscal or environmental. The County has been moving in that direction, however, and probably has a better developed set of growth control mechanisms than most jurisdictions in the region, or in the country. It has not yet, however, put it all together.

ISSUES

1. *What are the basic principles or approaches we wish to follow for determining the amount, location and timing of growth? Do the guidelines of the General Plan and other growth control measures need revision?*

Many of the specific findings and issues raised by the panels amplify this question. The General Plan assumes development along transportation corridors, especially 70-S. Is this realistic in the

face of the energy shortage? What are the alternatives, and what would be the consequences of a different basic policy toward the location of growth?

The Adequate Public Facilities Ordinance is based on the idea that growth should occur only where the facilities needed to support it are in place or planned. It is applied, however, not to guide or stop growth, but to prevent premature growth in a specific location. The General Plan and most master plans do not contain guidance for *staging* public facilities or private development. Should we decide which areas ought to grow, as well as how much? And by what means will we decide how much growth any area should receive (such as limiting the size of public facilities in order to guide the amount, timing, and location of development)?

2. *Are the processes and institutions now available adequate to making growth decisions?*

This issue is pervasive, for it deals with the ability of the County to fashion and execute a comprehensive set of policies. The long dispute over responsibility for the sewer moratorium illustrates one aspect of the problems of decision making and accountability.

As growth policy deals with how people live, the openness, responsiveness, and ingenuity of our institutions may also be questioned. How, for instance, do we fairly reconcile regional, county-wide and community interests when they conflict over growth issues? Does the County government need more or fuller control over the many agencies which are involved in the management of growth? Do our present processes for plan making and for administration of development regulations

work as they should or must to produce or carry out sound policies?

We should examine not only the mechanical parts of local or State government, but also the broader institutions, such as State constitutional and legal institutions of land regulation, environmental protection and transportation. We should also examine sub-state and regional governmental agencies for their capabilities in managing growth.

Finding IV

Many objectives of growth policy are in potential conflict.

To a very great extent, devising a comprehensive growth policy involves making "trade-offs" among various separately desirable objectives which cannot be perfectly reconciled. We have already seen how a desirable objective like improving water quality or alleviating sewer overflows can conflict with equally or more desirable objectives of maintaining the natural beauty or the tranquility of rural areas. Provision of an adequate low income housing supply may not only conflict with some local community objectives, but raise conflicts with both transportation and fiscal aspects of growth policy. Reconciling conflicting objectives raises substantive, technical, legal, and procedural issues.

ISSUES

1. How can we reconcile conflicting objectives of growth policy?

Traditionally, we have often ignored conflicting policies, or in fact pursued them concurrently. Even the budget and the CIP, which are sup-

posed to coordinate programs, may include conflicting policies. This occurs because opposing interests maintain sufficient power to obtain approval for their programs. Sometimes antagonistic policies exist because they have not been brought to the attention of the decisionmakers. And sometimes they exist because the agencies that pursue them have a lot of inertia behind them.

The success of growth policy depends very much on providing a means of bringing the conflicts into the open and arriving at agreement on a comprehensive and coherent growth strategy. This involves developing a policy-making process which can first of all clearly identify the conflicts, and secondly, resolve them.

2. How should we use technology in devising and testing alternative growth policies?

Science, inventions, scientific analysis, and applied science — technology — are vital contributors to growth policy. We are gradually moving from "the one best way" approach to using technology whereby a consultant is asked to tell us where to put a facility and how to build it, to one that recognizes that, especially in things as complex as growth policy, there is no single answer, but many alternatives. Choice depends on which values we wish to emphasize over others. Thus "technology assessment" or the "systems approach" tries to take into account not only the physical sciences and engineering, but the economic, social, and other considerations that are relevant to a problem. As used thus far in our County, the process tends to be incomplete. It is called into being for specific "problems." Is this sufficient, or are there better and more continuous ways of involving scientific and technical

knowledge in the making and execution of growth policy? What contribution, for instance, could be made through technology assessment in determining the natural holding capacity of the County, given various assumptions about public facilities? This might be especially critical in dealing with questions such as the relationship of land use density to air quality in the design of standards to regulate complex sources of air pollution.

A related problem deals not with technology or scientific knowledge itself, but with how we make better use, in the public interest, of the vast reservoir of scientific and technical manpower which resides in the County. Many such people participate in civic affairs, but they could be of inestimable value if their expertise were effectively engaged in evolving policies to manage growth.

3. To what extent should we encourage experimental approaches to solving growth problems?

One of the ironies of our complex society is that as we have bureaucratized both the private and public sectors, the opportunity and/or willingness to experiment seems to have diminished. The housing and building codes, the necessary discipline of huge budgets, the need for "clearance" at many levels of government often defeats the chance for ideas to be tried on a smaller scale. Once we have to create an "office of innovation," most experiments are probably doomed. The County might consider providing sufficient flexibility in its regulations to permit experiments in housing construction, community design, environmental protection and transportation which are aimed at demonstrating new materials, methods, or approaches to dealing with growth problems.

Communities Panel

Introduction

The Communities Panel reviewed the population, housing, and employment problems of the County, and defined growth issues related to these matters. The Panel also concerned itself with the effects of growth and change on communities, and the impact of our fiscal structure on community development.

In addition to studying various documents and reports, and attending the October public forums on growth policy, the Panel members also interviewed several people with experience and expertise in the areas of its investigations. The Panel held discussions with:

Herbert M. Franklin, Attorney; Consultant-Director, Metropolitan Housing Program, Potomac Institute, Inc.

David Stahl, Executive Vice President, Urban Land Institute.

William Brussat, Intergovernmental Relations Division, Office of Management and Budget, Exec. Office of the President.

Philip Hammer, Hammer, Greene and Siler, Economic and Urban Consultants.

Atlee Shidler, President, Washington Center for Metropolitan Studies.

Frederick Gutheim, Consultant on Urban Affairs.

Archibald C. Rogers, Pres., American Institute of Architects; Chairman, National Policy Task Force of The American Institute of Architects.

Paul Weinstein, Associate Professor, Dept. of Economics, University of Maryland; Consultant to the Secretary of Economic and Community Development, State of Maryland.

Seven major findings were developed which are divided into three areas: Population, Housing, and Employment; Community Structure; Fiscal Structure. These are listed in the beginning of the report and each is then followed by background material and issues related to that finding. The panel members feel that the questions raised are critical for understanding and discussion by citizens before final recommendations are made to the Planning Board.

Panel members acknowledge with thanks the valuable technical assistance received from the Research Division of the Montgomery County Planning Board:

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Communities Panel

POPULATION, HOUSING, EMPLOYMENT

FINDING I— *In addition to growth itself, demographic change within the County has become a critical factor for growth policy.*

In 1973, Montgomery County housed 579,700 people. By 1983, our population is estimated to grow to 747,000. This means we will grow by about 17,000 people a year. This amount of growth is stable but still significant.

The rate of growth—2.5 percent a year—is much slower than the 4.4 percent rate for the 1960's and 7.5 percent during the 1950's, and we can expect it to stabilize or decline even more. First, metropolitan growth is tapering off as federal employment and other basic industries are stabilizing, and second, the birth rate, nationally and locally, is continuing to drop.

Even if there were no net increase in migration to Montgomery County, and if our birth rate remained low, there would be some natural population increase, but we do not anticipate the enormous impact of numbers that occurred in the past, when we doubled our population every decade.

But if we did not grow at all, we would still grow older. And we would change in other ways which affect our natural resources, our fiscal capacity, and our quality of life. *We believe there are four major County-wide changes in our population that are basic to any consideration of growth policies.*

(a) *The number of households is growing faster than the population.*

Between 1960 and 1970 the number of people in Montgomery County aged 15-24 grew by 48,000, or 131 percent. This was far greater than either national or regional growth for these ages. Between 1970 and 1980, people from that bumper crop of teenagers will be forming households. The homeseeking age groups (those 20-39 years old) in Montgomery County are expected to grow by 60 percent by 1980, although the total population is expected to increase by only about 33 percent.

Not only the growing number of young adults, but their attitudes toward marriage and divorce, plus the fact that young women in the County substantially outnumber young men, will contribute to the rapid growth in new households.

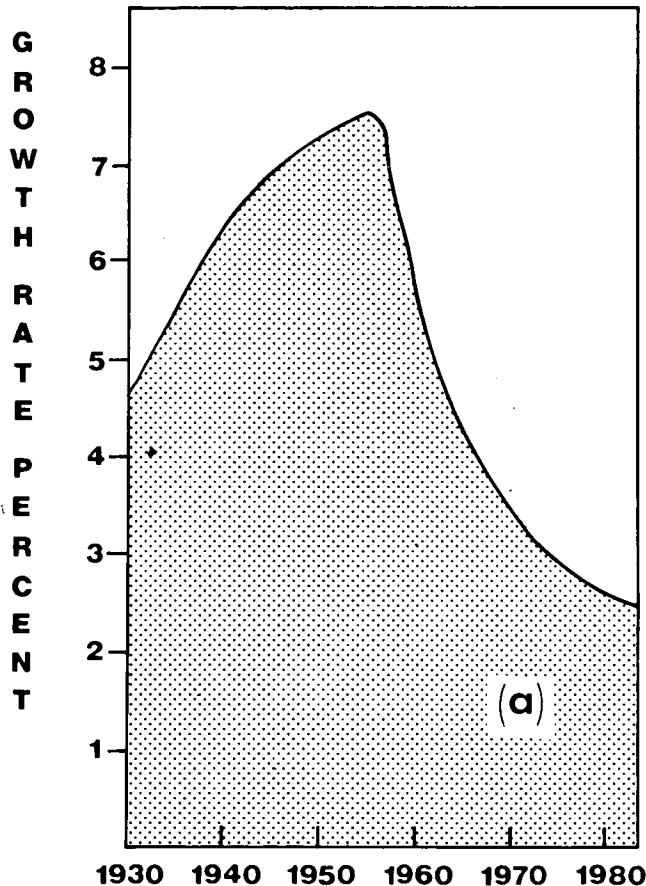
The number of single adults is growing. County residents, like the rest of the nation, are marrying later and divorcing more often. Many do not marry. The result is a very large increase in single-person households and the number of single women living in the County. Between 1960 and 1970, the number of single-person households more than tripled. *What this means in terms of growth policy is that there will be a greater demand for smaller housing units, as the average size of households declines.* Overall, 40 percent, and in some down-County areas, more than 45 percent, of all homes already house only one or two people.

Between 1960 and 1970, one-person households tripled and two-person households almost doubled, far greater increases than those for larger families.

(b) *The relative number of young children is declining.*

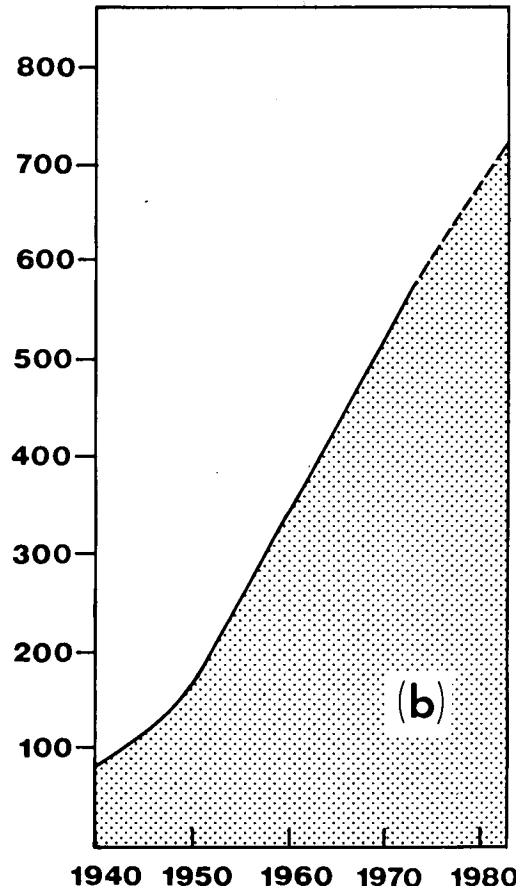
MONTGOMERY COUNTY

**AVERAGE ANNUAL
POPULATION GROWTH RATE (BY DECADE)**



SOURCE: MCPB

**POPULATION — 1940 - 1983
(IN THOUSANDS)**



SOURCE: U.S. CENSUS, MCPB

In 1973 Montgomery County housed 579,700 people. By 1983 our population is expected to grow by 16,700 people per year, compared to an average growth of 18,200 persons between 1960 and 1970. This rate of growth — 2.5 percent per year — is much slower than the 4.4 percent rate for the 1960's and the 7.5 percent rate during the 1950's.

Montgomery County's birth rate has not only declined, the actual number of children born has been dropping since 1960. In 1975, it may start up again, as more women reach child-bearing age. But even then, the number of children will not increase rapidly if present trends among women of child-bearing age continue. Currently, the national fertility rate has dropped below the level needed to replace the existing population. The fertility rate is even lower in Montgomery County than in the U.S. While many demographers think the rate will begin to increase, it is not expected to reach the levels of the mid-fifties. As Montgomery County has a larger proportion of single women than the national average, higher levels of income and education, and later marriages—all of which are associated with lower fertility rates—we can expect the rate to stay below national norms.

As a result of these trends, we should experience a decline in the number of children 5-9 years old between 1970 and 1980, and only a small increase in the number under 5 years old.

(d) *The County's population is aging.*

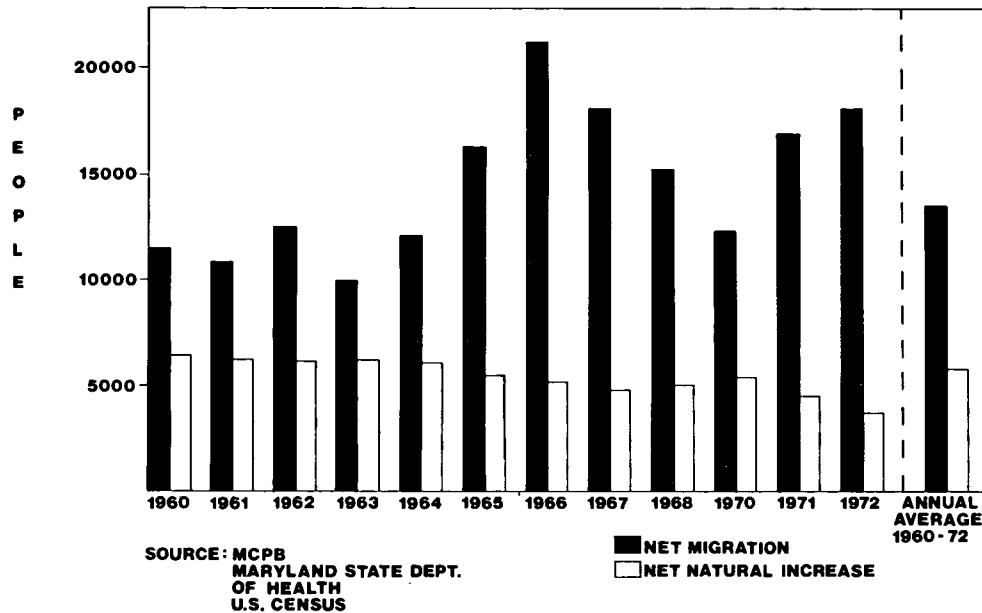
The growth in the number of people over 65 and the proportion they represent in our total population is dramatic. Between 1970 and 1980 we can expect the number of people over 65 to increase by 70 percent—from 33,000 to 55,000.

In general, the entire population of the County is aging as the birth rate declines and those born in the 50's and 60's become adults. In 1960, the median age of the County's residents was 28.3. In 1970, it declined to 27.9, but by 1980, it will advance to 30.6.

(d) *Rapid changes have occurred in family income distribution.*

Montgomery County, for several decades, has had high average family incomes. In 1970, our

COMPONENTS OF POPULATION CHANGE IN MONTGOMERY COUNTY: 1960-1972



median family income was the highest in both the region and the nation. It would appear that our relative affluence arises from the large proportion of the labor force working in professional and managerial occupations, and from a very large number of families with more than one income producer.

Recent federal pay adjustments have been an important factor in a dramatic change in the income structure of the County. Since 1969, the number of families earning more than \$25,000 has more than doubled—from 26,000 to 63,000. At the same time, the number earning less than \$12,000 was almost halved—dropping from 39,000 to 23,000. As a result of this shift, median family income in 1972 stood at \$22,000, in contrast with \$16,700 in 1969, a rate of change more than double the rate of inflation. The growth in upper income families and the corresponding decline in the proportion at the lower end of the

income scale underscores the problem of expanding the range of housing opportunities. As disposable income rises, the County accordingly increases its "luxury" image and it is easier to raise prices for housing.

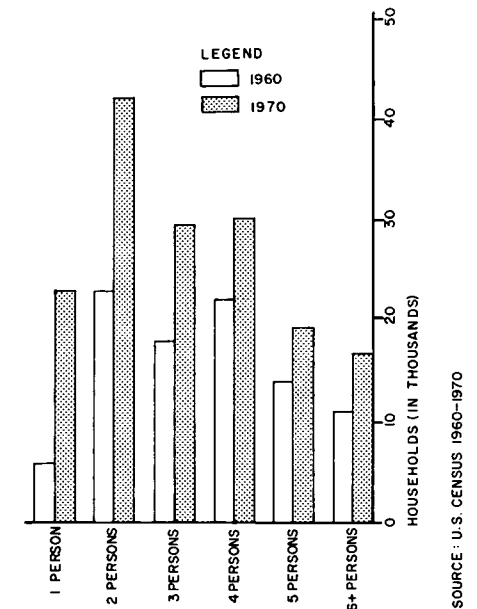
ISSUES

► 1. *Since Montgomery County is likely to experience a widespread shortage of housing, to what extent should it encourage the construction of more small housing units, and increase housing densities to respond to the needs of our changing population?*

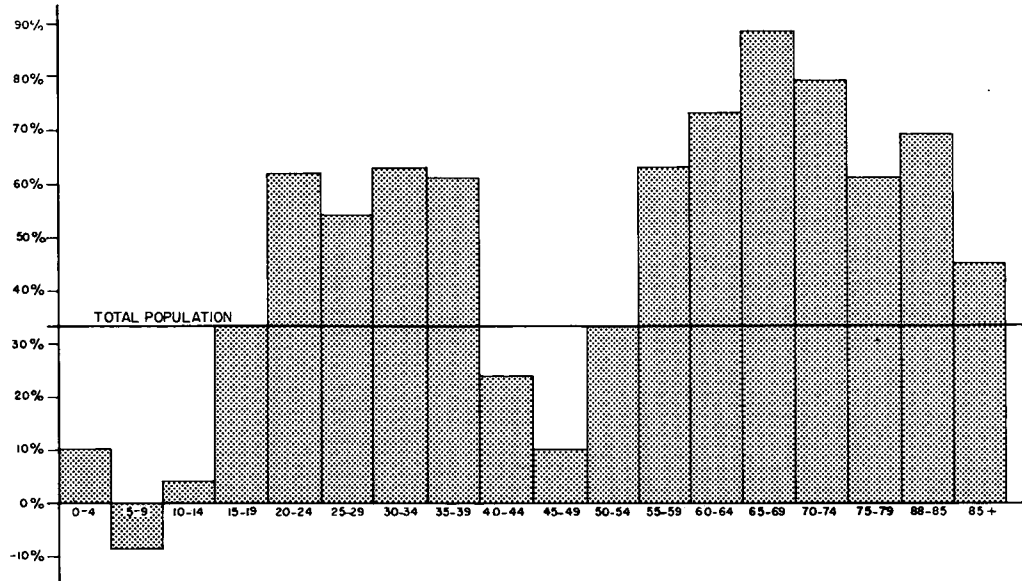
New family formations from within the County's existing population, plus new households migrating to the area will produce a heavy continuing demand for housing. The need for denser, smaller units, for elderly housing, and special

CHANGES IN HOUSEHOLD SIZE, 1960-1970

MONTGOMERY COUNTY

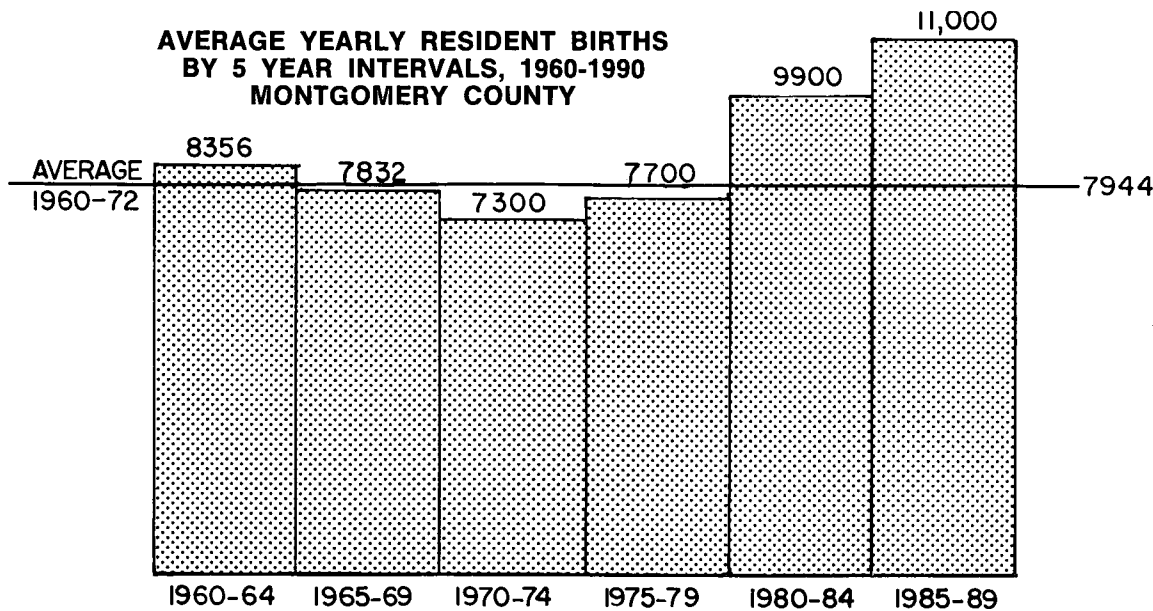


PERCENTAGE CHANGES IN POPULATION BY AGE GROUPS 1970 TO 1980



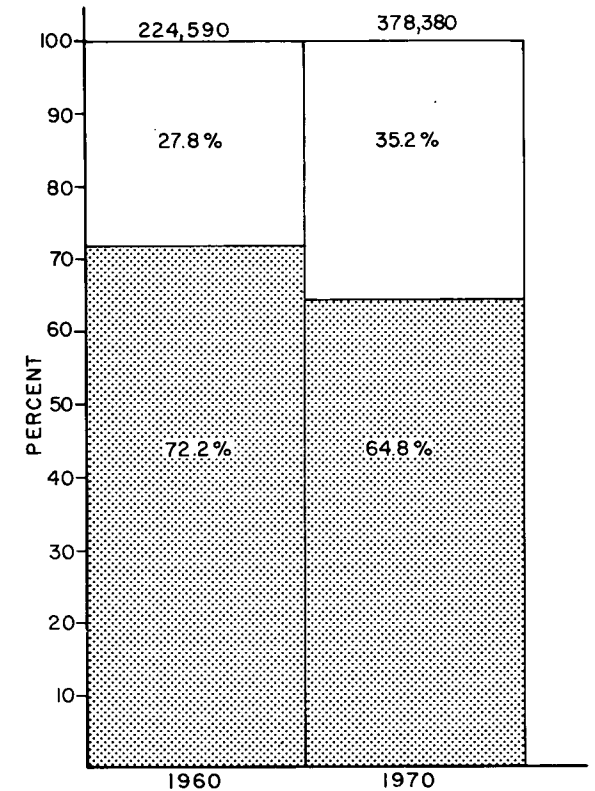
SOURCE: U.S. CENSUS AND PROJECTIONS BY MCPB

AVERAGE YEARLY RESIDENT BIRTHS BY 5 YEAR INTERVALS, 1960-1990 MONTGOMERY COUNTY



The 1960-64 and 1965-69 figures are actual births. The 1970-1989 projections are based upon current age specific fertility levels and forecasted total population and population by age group, assuming migration patterns similar to those of the 1960s.

PERCENTAGE DISTRIBUTION OF MARRIED AND NON-MARRIED PERSONS, 1960 AND 1970, MONTGOMERY COUNTY

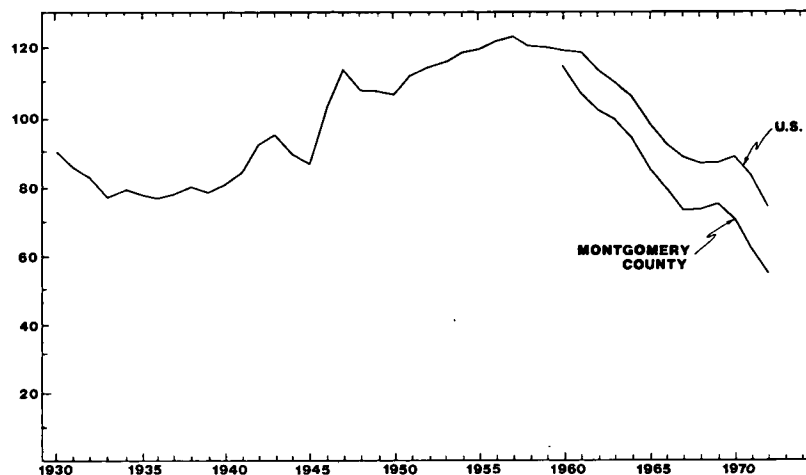


NON-MARRIED (Single, Separated, Divorced & Widowed)

MARRIED

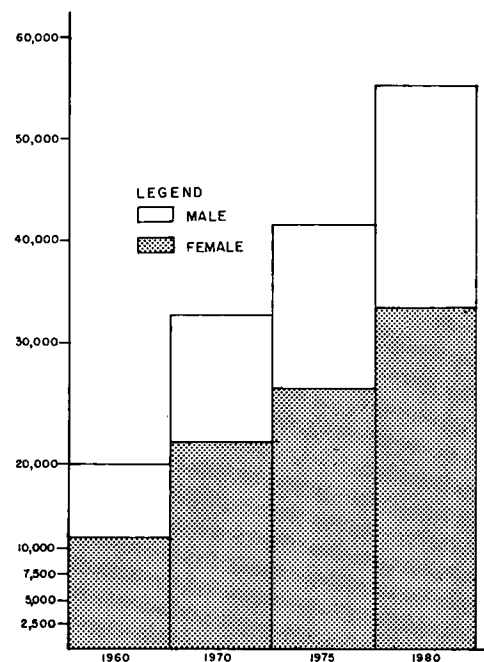
SOURCE: U.S. CENSUS, MCPB

GENERAL FERTILITY RATE (ANNUAL BIRTHS PER 1000 FEMALES AGED 15-44) UNITED STATES AND MONTGOMERY COUNTY, MARYLAND



SOURCE: U.S. BUREAU OF THE CENSUS, CURRENT POPULATION REPORTS, SERIES P-25, NO. 465 & 499
MARYLAND STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE, CENTER FOR HEALTH STATISTICS
MONTGOMERY COUNTY PLANNING BOARD

ELDERLY POPULATION OF MONTGOMERY COUNTY, 1960-1980 (OVER 65)



HOUSING NEEDS 1970-1980

	# High Estimate	Percent of Total Units	** Low Estimate	Percent of Total Units
Low Income Units	7,600	10.6	5,320	7.4
Moderate Income Units	15,840	22.0	11,088	15.4
Sub Total	23,500	32.6	16,408	22.8
Conventional Units	48,500	67.4	55,592	77.2
Total Units 1970-1980	*72,000	100.0	*72,000	100.0

* Assumptions, 1970-1980 total population increase — 173,600; current rates of fertility and household formation remain constant.

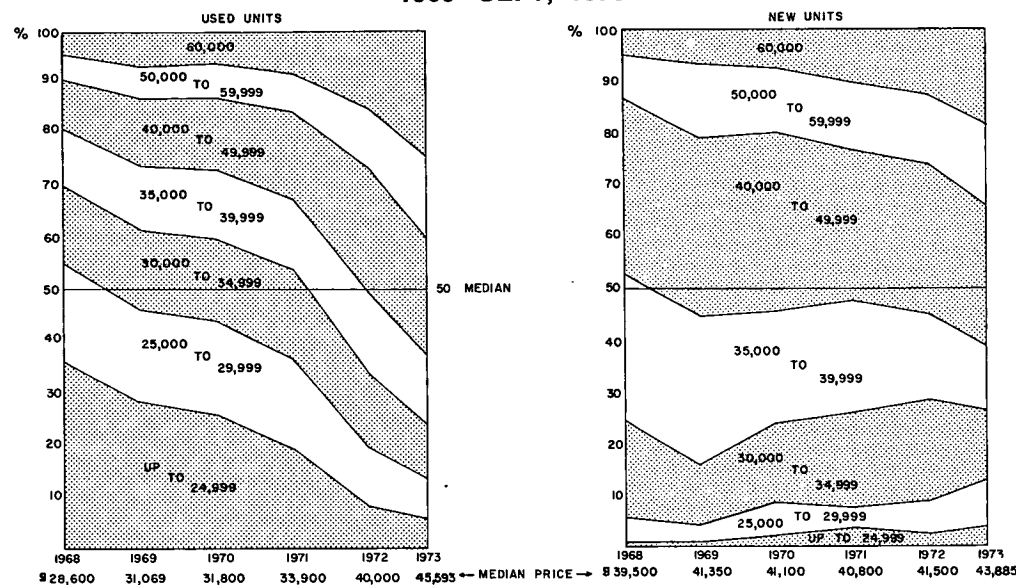
Total need generated by 90,000 new workers was used to estimate total low and moderate housing need. The number of conventional units is a residual.

** Low estimate assumes that only 70% of low and moderate income workers would choose to live in Montgomery County.

housing for "dependent" persons is sure to grow. In the 60's we became concerned with low and moderate income housing. These new pressures could transform the housing crisis into a general, rather than a special, problem affecting all but the most wealthy homeseekers. The rising cost of housing seriously threatens achievement of the General Plan's goal of "providing for a full range of housing choices for all incomes, ages, and life styles."

► 2. Should we provide an adequate supply of low and moderate income housing for all those seeking it? To what extent and in what manner should the County expand its role in providing this kind of housing?

CUMULATIVE PRICE DISTRIBUTION OF NEW AND USED FOR-SALE HOUSING UNITS 1968 - SEPT, 1973



DATA SOURCES: 1968-1970, Analysis of recorded data by Montgomery County Department of Community Development, 1971. 1971 and 1972, MCPB; Random statistical samples of "Lusk's, Montgomery County Real Estate Guide," 1971 sample size = 1444, 1972 sample size = 1382 taken from Jan. 1, 1972 to Nov. 3, 1972. 1973, MCPB; 11,248 observations from Lusk's Guide, Jan. 1, 1973 - Sept. 30, 1973.

Housing prices have escalated rapidly for both new and used units in Montgomery County. New housing units are representing a larger share of the modest supply of low to moderate income housing. This is primarily attributable to a large share of town-house and multi-family units in the new housing stock.

New housing offers a wider price range, and a larger percentage, of moderate priced units than the used housing market, where prices have gone up faster than for new houses. The mortgage "crunch" may dampen these prices some, but a basic finding remains: *In Montgomery County, housing does not filter down from the more affluent to the less affluent. Instead, used housing tends to filter up, especially as the population becomes more affluent.*

For the long term, there is no reason to believe that housing prices will substantially decline, especially in light of such factors as tight money, rising construction costs, scarce energy, scarcer land, restrictive land use, rent controls, and limited sewer capacity. Therefore, the serious and growing deficit in low and moderate income housing will not be met through the normal operations of the private housing market or through presently inadequate public subsidy or construction programs. Recently adopted legislation requiring that a percentage of newly constructed

NEW AND CONVERTED CONDOMINIUMS IN MONTGOMERY COUNTY JUNE 1972 - DECEMBER 1973

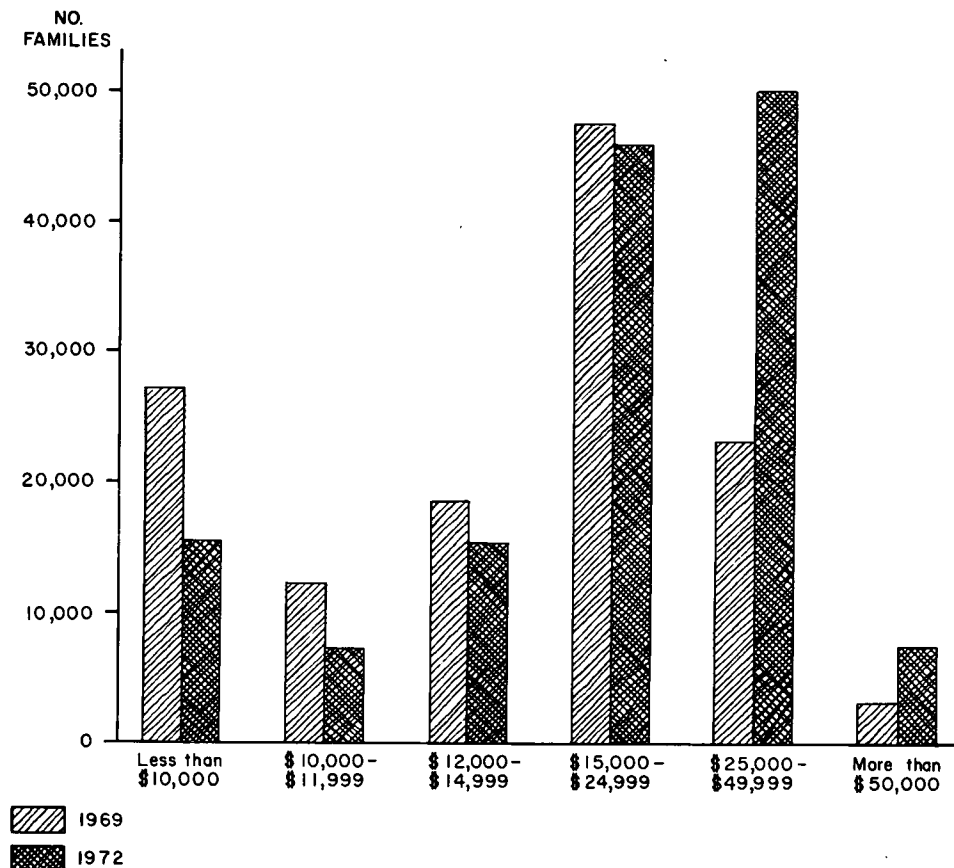
	Number of Projects	Number of Units
Condominiums Converted from Rental Units	22	4,000
New Condominiums	15	2,300
TOTAL	37	6,300

SOURCE: Estimated by the Montgomery County Office of the Supervisor of Assessments

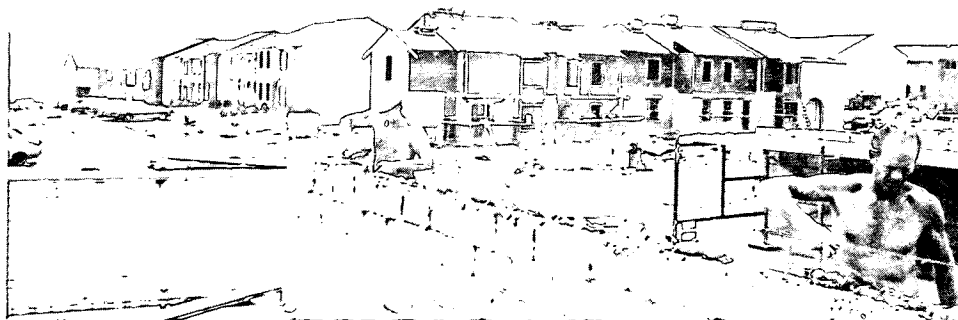
Condominium units represent a rapidly growing proportion of new housing units for sale in Montgomery County. The total number of new condominium units developed during this time period was about one-fourth (1/4) of all new housing construction. The units converted represent 6.6 percent of the total rental inventory in the County as of 1970.



MONTGOMERY COUNTY ESTIMATED FAMILY INCOME, 1969 AND 1972



Source: Estimates for 1972 by Staff of Montgomery County Planning Board.



housing be made available at moderate prices will not even meet existing, let alone future, needs for housing in these price ranges. Without major new action, the existing problem of low and moderate priced housing will become more severe.

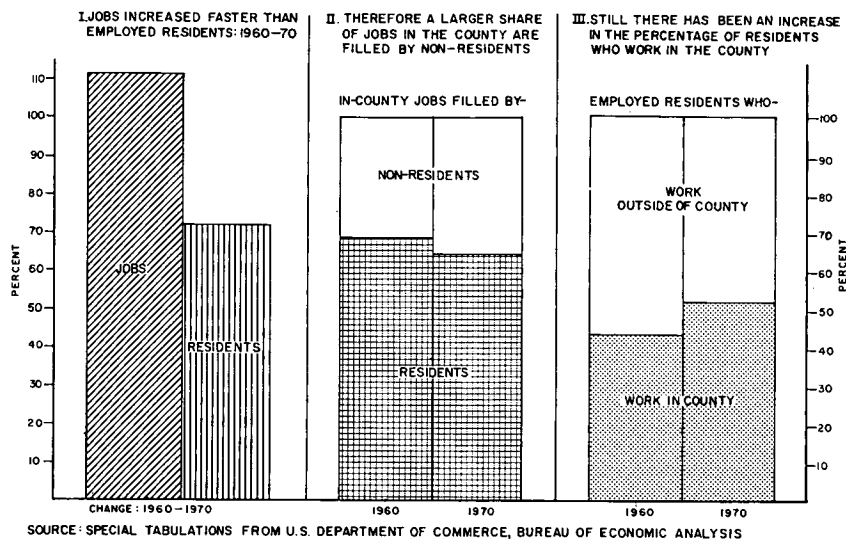
► 3. *Should condominium conversions be more closely regulated to assure a larger supply of moderately priced dwellings?*

The condominium movement also affects the availability of housing at modest prices by drastically reducing the number of rental units available. While condominiums provide for-sale housing within the means of many moderate income households, they do not meet the needs of the elderly or of many other groups who would prefer rental opportunities. The financial advantages to builders and higher income apartment owners, however, in contrast with the difficulties of managing rental properties, are powerful incentives toward conversion.

► 4. *Should special forms of development be encouraged, such as mobile homes and increases in zoning densities, to increase the supply of low cost housing?*

To the extent that land values and construction costs are important in the supply of low cost housing, questions must be raised as to how these costs can be reduced and what will be the consequences of such action. Mobile homes and modular construction have successfully provided additional housing opportunities in other areas. Such approaches require not only different zoning, subdivision and building codes than we have, but are most effective at fairly high residential densities. Provision for a mobile home zone, or for construction of mobile homes in some existing zones, may be a useful approach.

EMPLOYMENT AND COMMUTING IN MONTGOMERY COUNTY: 1960-1970



RESIDENTS AGED 16 AND OLDER, BY SEX AND EMPLOYMENT STATUS, MONTGOMERY COUNTY 1970 AND 1980

	1970		
	Male	Female	Total
16+ Population	167,849	187,311	355,160
In Labor Force	141,496	84,493	225,989
Employed	139,232	82,212	221,444
Unemployed	2,264	2,281	4,545

	1980 (Estimated)		
	Male	Female	Total
16+ Population	246,975	278,391	525,366
In Labor Force	200,473	128,244	328,717
Employed	197,265	124,781	322,046
Unemployed	3,208	3,463	6,671

SOURCES: U.S. Census and MCPB Staff

Over 100,000 additional resident jobs must be created to accommodate the County's growing labor force during this decade. Since a larger proportion of County workers are seeking jobs within the County and more growth is occurring in areas further away from other employment centers in the SMSA, employment within the County is becoming more essential.

In addition, should we consider increases in density where low income units are proposed? Such increases have to be assessed against community impacts, such as school capacities and other public services.

► 5. *Should the County accept responsibility for assuring that a balance exists between the number of jobs and the supply of housing available for the people who fill those jobs?*

The employment issue is closely related to the housing issues. This does not, of course, mean that every worker would choose to live in the County, but that the price structure of the housing supply would permit an equivalent number to do so. This issue is of increasing importance as the children of the 60's enter the job market, and also as the energy crisis makes commuting long distances from home to work even more expensive than before.

Thus far, Montgomery County has maintained a fortunate balance between its labor force and the

CHANGE IN LABOR FORCE IN MONTGOMERY COUNTY BY AGE & SEX: 1970-1980

Sex/Age	Labor Force		Change	
	1970	1980	Number	Percent
Total ^a	225,975	333,817	107,842	47.7
Male	141,499	205,473	63,974	45.2
Female	84,476	128,344	43,868	51.9
Male: ^a				
16-19	8,901	11,842	2,941	33.0
20-24	13,354	21,902	8,548	64.0
25-34	31,616	49,203	17,587	55.6
35-44	33,319	47,584	14,265	42.8
45-64	50,277	68,446	18,169	36.1
65 yrs. +	4,271	6,496	2,225	52.1
Female: ^a				
16-19	7,050	9,456	2,407	34.1
20-24	12,934	20,373	7,439	57.5
25-34	16,289	27,602	11,313	69.5
35-44	16,746	24,605	7,859	46.9
45-64	29,274	42,625	13,351	45.6
65 yrs. +	2,340	3,683	1,343	57.4

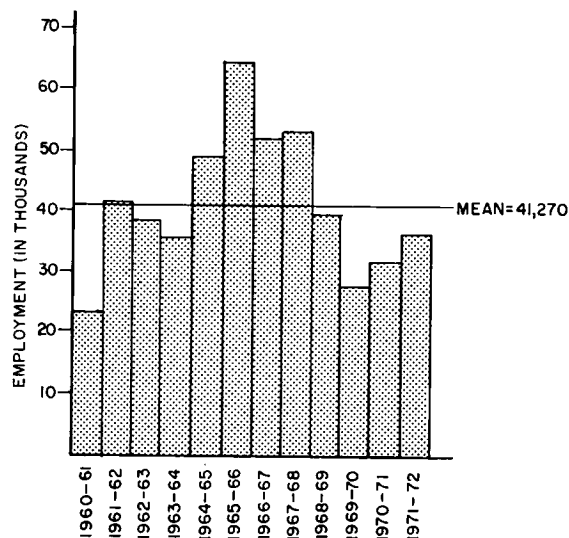
^a Age detail does not add to total due to rounding

Note: Estimates derived by (1) adjusting 1970 labor force age/sex participation rates by trend projected for 1980 by Bureau of Labor Statistics, U.S. Department of Labor: Manpower Report of the President: 1973. (2) applying adjusted participation rates to 1980 population estimated by Staff, Maryland-National Capital Park and Planning Commission (See Population and Household Growth Forecast: 1972-1983, October, 1972).

jobs available in the County. Over 50 percent of County residents work in the County, and there are almost as many job opportunities in the County as there are residents in the labor force.

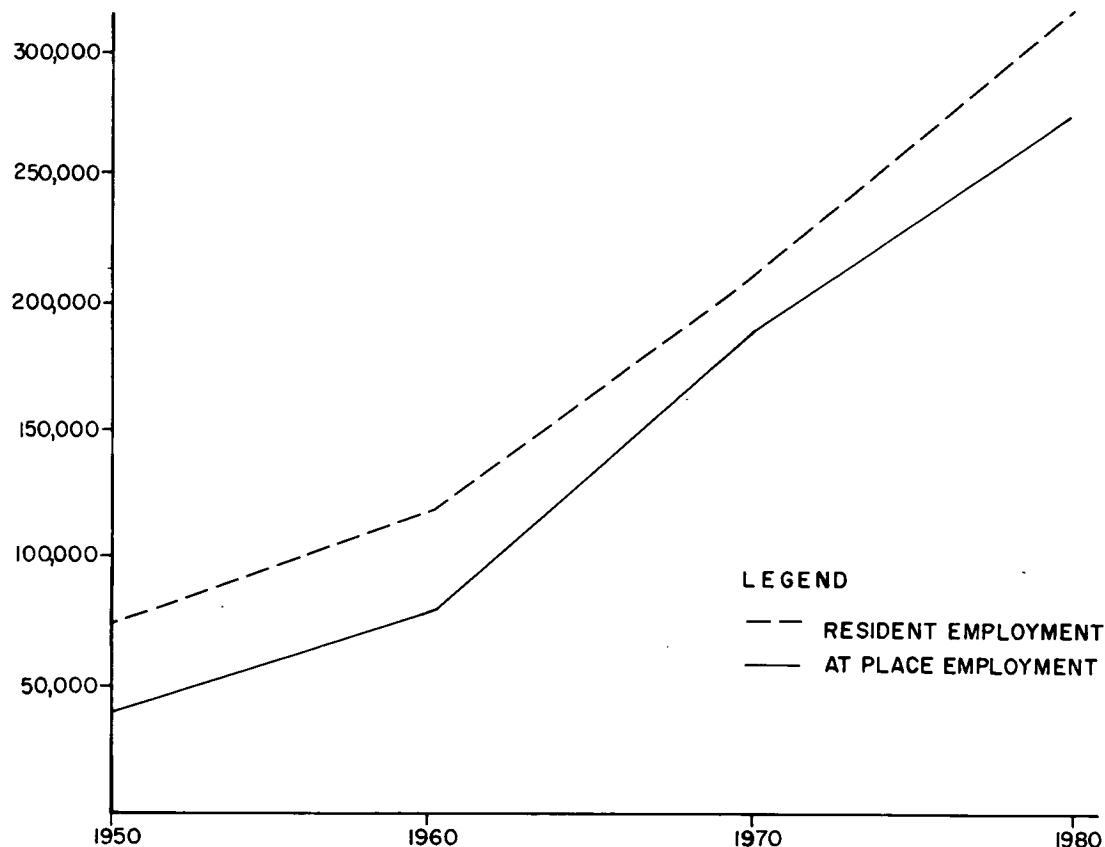
With the large number of young people now beginning to seek work, plus the increasing number of women looking for jobs, we can expect that the County labor force will grow much faster than the population. Forty-seven (47) percent—almost 108,000—more workers will be added to

ANNUAL INCREASE IN NON-AGRICULTURAL EMPLOYMENT: WASHINGTON SMSA



SOURCE : U.S. DEPT. OF LABOR, BUREAU OF LABOR STATISTICS, M C P B

AT PLACE AND RESIDENT EMPLOYMENT FOR MONTGOMERY COUNTY, 1950-1980



SOURCE : RESIDENT EMPLOYMENT FOR 1950-1970 U.S. CENSUS
 1980 RESIDENT AND AT PLACE EMPLOYMENT ESTIMATED BY M C P B

our labor force by 1980. At the same time, if present trends continue, there will be an increase of about 90,000 jobs.

But the 1980 labor force will be different from the 1970's. It will contain far more young, less

experienced workers. The important question is how well new jobs match the labor force, and therefore the extent to which we will have to import labor to fill local jobs. The possibility of a mismatch between the workers and the kind of

jobs available is important in deciding on the type of growth which should occur, and whether growth in jobs will absorb the existing labor force or attract more in-migration, thus a higher rate of growth.

FINDING II — Not all parts of the County are growing and changing in the same ways.

The previous finding regarding change reflects a County-wide condition. However, change does not affect every community the same way. If current trends continue, about 37 percent of the 168,000 population increase forecast for the next ten years will take place in the 70-S Corridor—principally in Gaithersburg and Germantown. For those areas, that means a 141 percent increase in population.

Thirty-one percent of the County's new growth over the next decade is expected to occur in the urban ring. These 53,000 people represent a 13 percent increase in the urban ring's population.

Within the urban ring itself, growth is by no means uniform. Most of the new growth has been occurring in Bethesda, North Bethesda, Aspen Hill and Rockville. By contrast, Silver Spring has gained very little, and some older down-County neighborhoods are losing population.

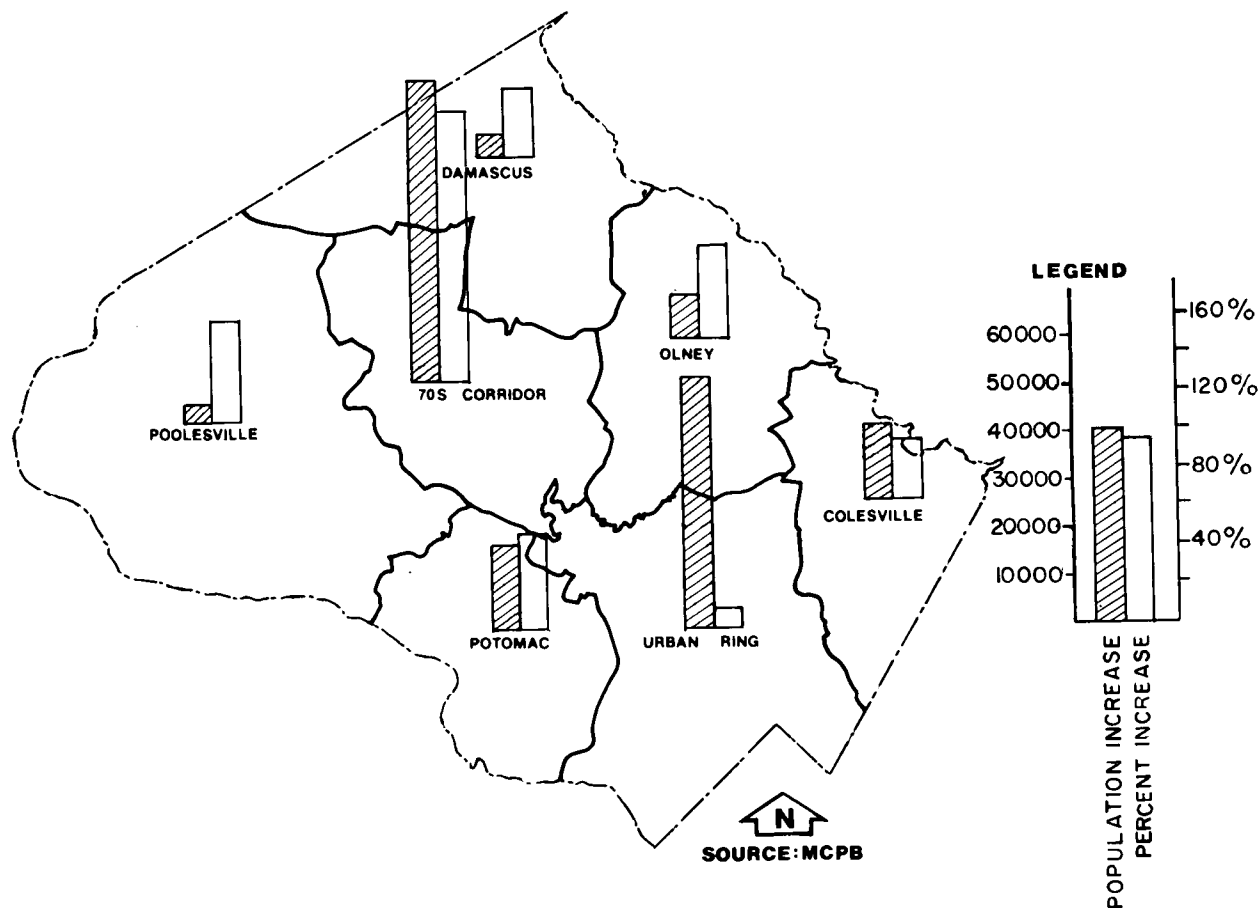
Some areas in the urban ring need more growth than they have been receiving to maintain their economic and social stability. Other areas are facing the prospect of more rapid growth than they can absorb and still maintain stability or neighborhood amenities.

Not only do the amounts and rates of growth vary widely throughout the County, but so does the type of population and physical growth that is occurring.

In the 70-S Corridor, for instance, the population, dominated by new settlers, is younger, with more pre-school children. By contrast, in the urban ring, almost 30 percent of the population is over 45, and this area contains most of the County's people over 65.

Currently, growth in the corridor, by virtue of

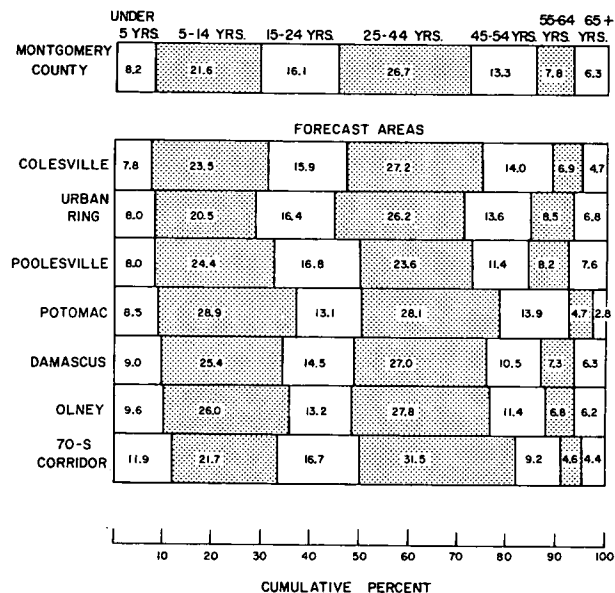
**POPULATION INCREASE MONTGOMERY COUNTY 1973-1983 BY FORECAST AREAS
AND AS A PERCENT OF EXISTING
POPULATION**



its scale, is providing a substantial variety of housing types, with a predominance of townhouses or garden apartments and very few high-rise apartments. Employment growth in the 70-S Corridor has continued, but is not currently expanding in pace with residential development.

Development in the urban ring is concentrated in the few remaining vacant areas, particularly in North Bethesda, near some proposed transit stations, and in still open sections of the Aspen Hill-Norbeck area. Urban ring development is more dense, usually involving high-rise residences or

DISTRIBUTION OF COUNTY FORECAST AREA POPULATION BY AGE: 1970 (FIGURES ARE IN PERCENT)



SOURCE: U.S. Census, MCPB.

The age distribution of Montgomery County residents shows relatively modest variation from one large forecast area to another. However, there are differences. The down County Urban Ring area has fewer children under 14 years, and the Potomac and the 70-S Corridor areas have fewer elderly persons over the age of 55 than other areas of the County.

mixed commercial-residential and office growth. This type of development, plus older single-family and apartment neighborhoods, tends to attract more older people, fewer families with school children, more single people, and minority households.

ISSUES

► 1. *Is the distribution of new growth of all types the most important and complex long-term issue for County growth policy?*

From our present perspective, the energy crisis seems likely to have a far more profound effect on growth than things like the sewer moratorium. It forces us to think about how jobs and houses relate to each other, and how fully we utilize our public transportation system as a focus of growth policy. We must decide what amounts of each type of economic and population growth will be allocated to corridor growth centers, central business districts, transit stations, or to the spread of urban development.

The availability of vacant land is both a constraint on long-term development and an opportunity for it. It determines where new growth *could* occur without redevelopment, and where it very likely *will* occur unless there are strong, clear, and enforceable policies for dealing with transportation, sewers, energy, environmental quality, and intensities of land use.

In trying to distribute growth, we must take account of where growth of different kinds can best be absorbed. This analysis is likely to point to areas well served by public transportation and other public facilities. In some of these areas, particularly in the County's central business districts, substantial opportunities may exist for high

density housing and employment development projects. Some transit station areas also have potential for mixed or high density residential growth. They may be particularly attractive as home areas for the elderly, singles, and young households, who need the access and mobility offered by the transit system, and an opportunity to live near work.

Growth policies will have to consider how to guide the market so that underutilized areas can be redeveloped and so that growth will not overwhelm other areas. This may involve the County in more than the traditional approach of providing capital facilities and zoning. Allocation of sewer capacity, assembly of land, and a larger direct participation in development or redevelopment may need consideration if the distribution of growth is to be influenced.

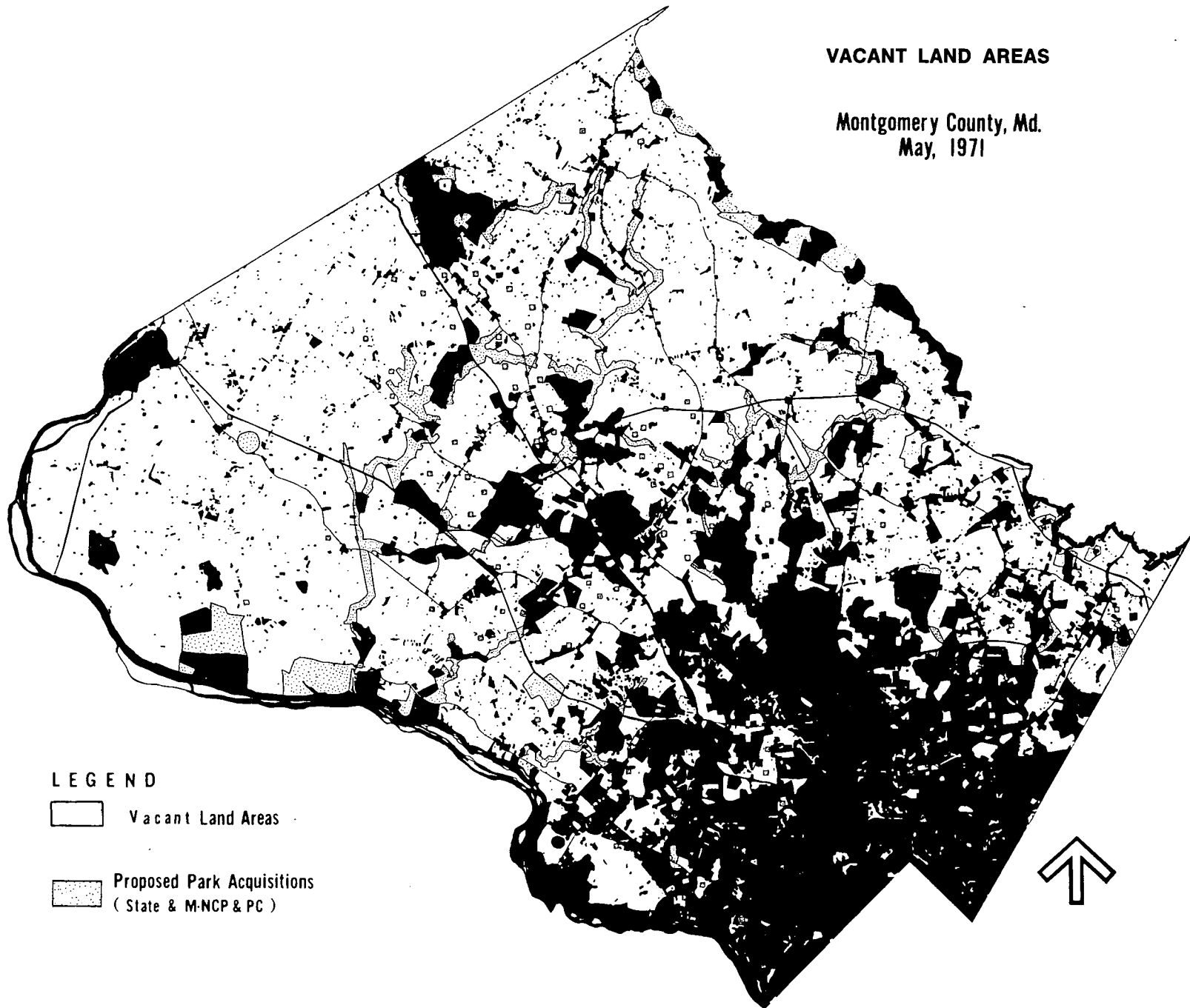
The clearest opportunities for absorbing new growth outside the urban ring are in large-scale planned communities. These communities have room for a wide variety of housing at moderate densities, and a considerable amount of commerce and industry. They are providing a greater range of prices and a better balance among types of units than new smaller scale subdivisions, or areas within the urban ring, primarily because they have more flexibility in zoning.

► 2. *What will be the effect of the newly adopted County regulations such as the Rural Zone and the Adequate Public Facilities Ordinance on the distribution of growth?*

These regulations sharply constrain growth in some areas of the County, thus placing a greater burden, perhaps, on other areas. This places a responsibility on us to select carefully those areas where growth should and can occur.


VACANT LAND AREAS

Montgomery County, Md.
May, 1971

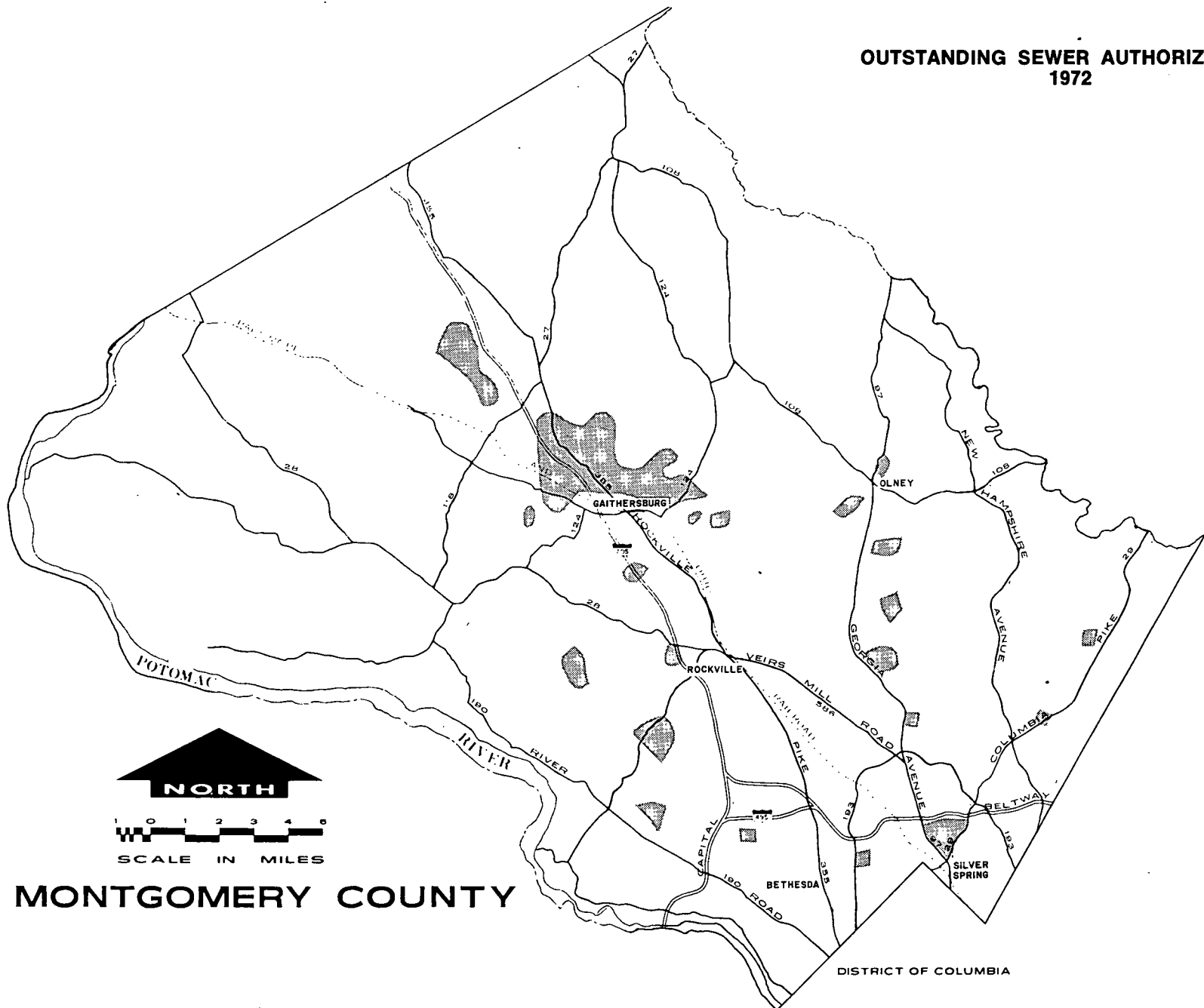


LEGEND

 Vacant Land Areas

 Proposed Park Acquisitions
(State & M-NCP & PC)

OUTSTANDING SEWER AUTHORIZATIONS 1972



MONTGOMERY COUNTY

COMMUNITY STRUCTURE

FINDING 1— Past growth based upon the construction of homogeneous subdivisions has worked against the establishment of strong communities.

Many residents express a desire for a "sense of community." Unfortunately, our past patterns of development undermine the establishment of strong communities of people who work together, sharing concern for serious problems. While the homogeneous community offers the security of similarity, it separates people by class and age. Strong communities sustain their members throughout the life cycle and even attract the next generation to stay on or return. To do this, a fairly wide range of housing opportunities, services, and conveniences are needed.

Where homogeneous neighborhoods already exist, introduction of a more diverse population is often threatening to those who live there. Although it might make good sense from a County-wide viewpoint to diversify where transportation and other services already exist, new, denser, or different populations are rarely given a friendly reception. Commercial intrusions are usually viewed with even greater hostility.

The "not in my neighborhood" syndrome pushes toward more insularity and separation, particularly for older and less affluent residents. Concentrations of these groups, in turn, deprives them of community support and a sense of belonging to society. Low income housing, separated from the larger community, often becomes uninhabitable. Elderly enclaves emphasize loneliness. Neighborhood opposition to change is, unfortunately, too often based on the fact that local growth is no unmixed blessing. Many new de-

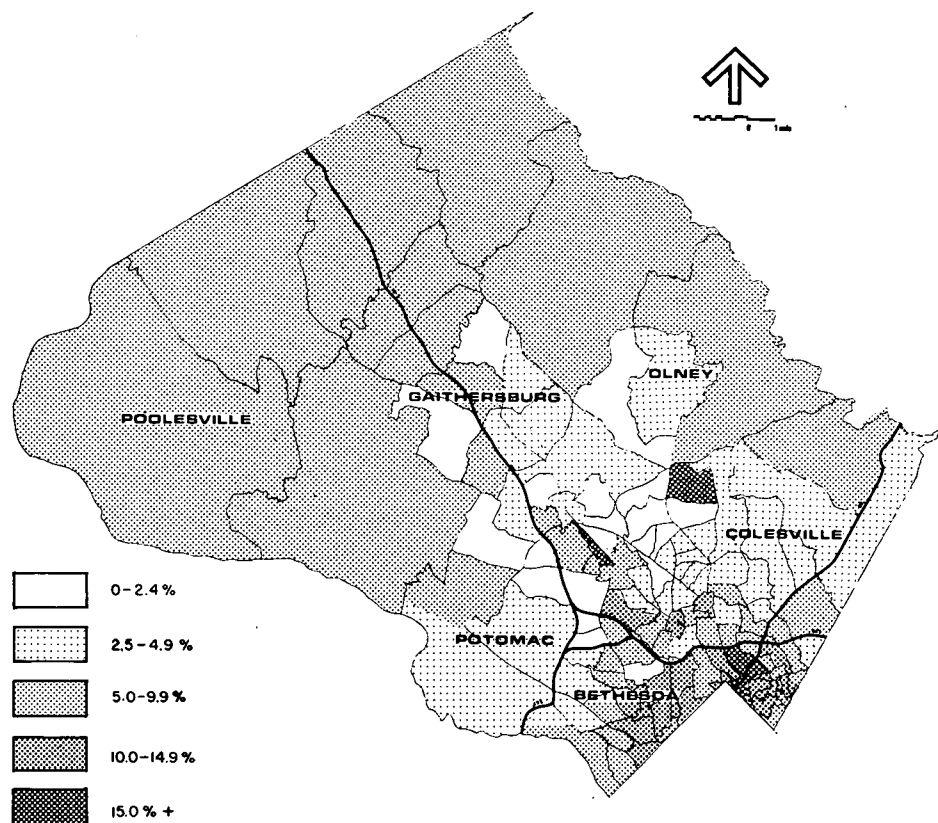
PLANNING AREA POPULATION AGE RANKINGS: 1970

Planning Area	Forecast Area	Total Population (Number)	Population Under 25 Years of Age (Percent)
Aspen Hill	Urban Ring	40,381	51.7
Rockville	Urban Ring	44,852	51.5
Potomac	Potomac	23,090	51.0
Gaithersburg	70-S Corridor	22,101	50.7
Clarksburg	70-S Corridor	2,038	50.7
Lower Seneca	Poolesville	1,712	50.6
Bennett	Damascus	2,534	50.5
Goshen	Damascus	3,128	50.4
Rock Creek	Olney	3,004	49.4
Darnestown	Potomac	2,174	49.0
Poolesville	Poolesville	1,177	48.8
Cloverly	Colesville	5,819	48.8
Dickerson }	Poolesville	1,290	48.6
Martinsburg }			
Olney	Olney	9,509	48.5
Travilah	Potomac	5,131	48.3
Damascus	Damascus	3,413	47.7
Fairland	Colesville	6,973	47.5
Patuxent	Colesville	2,863	47.3
Wheaton	Urban Ring	86,973	47.2
White Oak	Colesville	28,861	46.9
Germantown	70-S Corridor	2,797	46.2
Takoma Park	Urban Ring	28,131	46.1
No. Bethesda	Urban Ring	33,670	45.4
Kemp Mill	Urban Ring	36,470	44.2
Bethesda	Urban Ring	89,017	40.3
Silver Spring	Urban Ring	35,701	34.5

SOURCE: 1970 U.S. Census, MCPB

Wide variations in the age distribution of population become evident when the age distributions of planning areas are compared. The rapidly growing portions of the Urban Ring and 70-S Corridors have much larger proportions of their population under 25 years of age than the more mature, slow growth areas in the Urban Ring.

CENSUS TRACT AREAS PERCENTAGE OF INHABITANTS IN THE 65+ AGE GROUP BY 1970 CENSUS TRACT



velopments are visually unattractive. Increased traffic can severely disrupt a community by dividing neighborhoods and inhibiting close contact among residents. It generates noise and pollution and threatens the safety of residents.

As homogeneous and auto-oriented places, our neighborhoods often do lack important "community" qualities like pedestrian systems and gathering places within easy distance—markets, libraries, parks, community centers, or post of-

fices. These are important elements of community design which often are not economic to include in a small homogeneous neighborhood.

In general, large-scale new communities are providing a better balance of housing, as mentioned above, and they are also offering a far broader array of community amenities and life support systems to their residents. Many of the problems of developing a mixture of housing and lifestyles are easier to handle on a larger scale.

ISSUES

► 1. *Where, to what extent, and under what conditions should new growth occur in already established communities?*

Responding to this issue is perhaps the most challenging aspect of a comprehensive growth strategy. Properly introduced, new growth could enhance some areas and promote stability. In others it could destroy important values. This suggests that growth policy must address not only questions of location and type of development, but establish careful standards for development and accompanying amenities to overcome both the fear and the fact of disruption.

► 2. *To what extent should County policy promote community diversity in development or redevelopment of communities?*

County policy already requires 15 percent moderate income dwellings in new development. Should it go further to assure a broader "mix" of incomes and ages? In our new age of scarce energy and deteriorating air should we reexamine policies which make life convenient only if one owns a car, and should we design new growth to relate jobs and homes more closely?

► 3. *To what extent should County growth policy "prefer" large-scale planned communities over smaller scale developments?*

Such developments entail better community planning, higher standards of design and longer term public as well as private commitments to bring them into being. This issue must be examined in light of its effect on County government, the development industry and the resulting communities and services. Alternatively, we might

explore using some of the flexible density concepts of new towns in smaller scale developments.

► 4. *What policies are needed to assure equal housing opportunities in every neighborhood?*

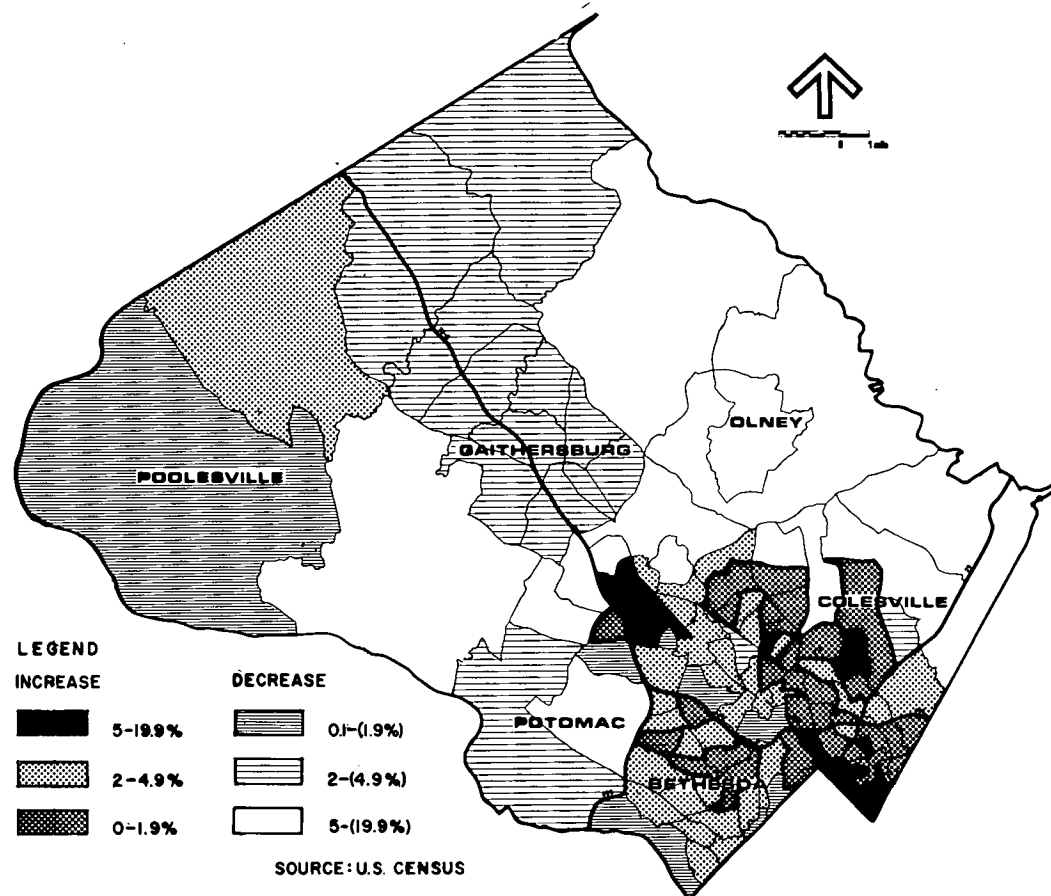
Since the middle 60's the black population of the County has been increasing. This is due largely to the fact that fair housing legislation has made it possible for many black families to exercise the same kinds of housing choices as white families. In this decade, the suburbanization of black families is expected to continue. With migration to the suburbs, racial change becomes an important factor in some neighborhoods. For the "community" aspects of growth policy this may require special attention to measures and programs which are designed to assure equal housing access in all areas so that involuntary segregation cannot occur. Where older communities are beginning to experience racial change, special programs may be required to provide residents with the information and services they need to maintain stability while accepting change.

Growth in racial diversity can benefit the community if County policy is conscious of the magnitude of black suburbanization and pays careful attention to the needs of the new residents and the communities they choose.

FINDING II — Community consists of more than physical amenities and diverse housing types — it includes institutions and processes which enable people to act together.

The "sense of community" varies widely in different parts of Montgomery County. Community spirit seems to be sustained better where official institutions, such as municipalities or special tax

CHANGE IN PERCENT OF NONWHITE POPULATION BETWEEN 1960 AND 1970 BY CENSUS TRACT AREAS MONTGOMERY COUNTY, MARYLAND



districts, exist, than in those areas where there are none. Some communities have been sustained through completely voluntary associations, but these are more rare. Their participation in County affairs tends to be more sporadic, and normally occurs only in response to a "threat" such as a change in land use, a new road, or an attempt to locate in the community a public facility, a special treatment center, or housing for low income or elderly people. Thus, in many ways, the "sense of

community" which has been fostered, as it relates to growth, is negative and defensive. This stems not only from the lack of community institutions to sustain cooperation, but also from the way in which County institutions have often operated to confront a community with "future shock."

Community is also affected by the quality and responsiveness of public services and public agencies from master planning to law enforcement. The level of services and the approach

taken is especially critical if a community is experiencing any significant physical or social change. Public and voluntary community institutions such as churches, political, or neighborhood associations, charitable or philanthropic groups, and business or service groups can all contribute to a community's ability to manage its affairs and deal with change.

ISSUES

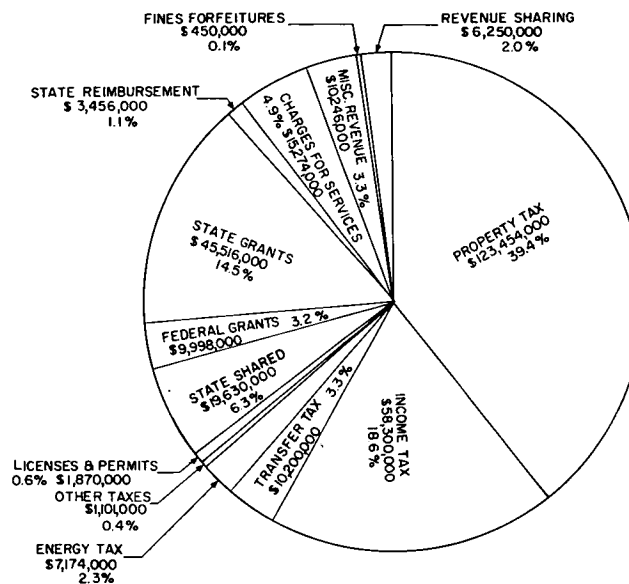
► 1. *What kind of community institutions can be developed to enhance citizen involvement in decision making?*

In areas of the County which have already developed, the issue involves how people can participate in the decisions that will affect their community and local quality of life. Not all areas will need the same approach. For undeveloped areas, it involves making provision for the future population to have a strong system of community governance, allowing both effective participation and establishing high quality services.

► 2. *How shall community decisions and County decisions be related to each other?*

One of the clear tensions in growth policy arises because action in the best interest of the entire County may have an adverse effect on a particular community. It may be possible to identify certain aspects of growth policy which can be controlled by communities. Other aspects may be handled only by the County. Between these extremes there will be a need to establish public mechanisms to weigh fairly the different interests of County and community and to assure that community interests are heard and reconciled with those of the County.

MONTGOMERY COUNTY FISCAL YEAR 1974 ESTIMATED REVENUE SOURCES — ALL AGENCIES



County property and income taxes account for 58 percent of the County's total revenues. The State of Maryland, in the form of state grants, state-shared expense and state reimbursements, accounts for nearly 22 percent of the County's income. Over 5 percent of revenues are derived from Federal sources. The remainder of the County's revenue is derived from energy taxes, property transfer taxes and a variety of user charges and miscellaneous sources.

FISCAL STRUCTURE

FINDING I — *Montgomery County's fiscal system is basically well diversified as to sources of revenue and our ability to raise revenues is well balanced with the need to provide services.*

Our principal sources of revenue are the property tax and the income tax. The property tax is a relatively more stable source of revenue, in that the tax base is less susceptible to the rise and fall of the business cycle than the income tax.

Since the 1967 State tax reform, the income tax has become an increasingly important source of County revenue. It has made it possible to maintain or improve County services without sharp increases in the property tax rate. This condition is also partially due to the continued rise in the County's assessable base.

In recent years, a decline in birth rates and school enrollment, coupled with an increase in economic activity and incomes, has improved the balance between revenue collections and need for services. In the metropolitan area, the total tax burden of Montgomery County residents is second only to residents of Prince George's County. This is largely due to the fact that Maryland's income tax rate is higher than Virginia's. For people with the lowest incomes, however, Montgomery County requires the least burdensome tax effort in the region.

ISSUE

► 1. *To what extent should we readjust our public expenditure priorities to reflect the changing needs of the population?*

Smaller families, a changing age distribution of the population, and other changing elements,

**MAJOR STATE AND LOCAL PERCENT TAX BURDENS FOR A FAMILY OF FOUR
RESIDING IN SELECTED WASHINGTON METROPOLITAN AREA JURISDICTIONS
1972-1973**

		Maryland			Virginia			
	District of Columbia	Montgomery County	Prince George's County	Alexandria	Arlington	Falls Church	Fairfax City	Fairfax County
				<u><u>\$5,000 Income</u></u>				
Percent of Total Income	7.7%	7.5%	7.9%	8.9%	8.0%	8.2%	8.5%	8.2%
RANK	6	7	5	1	4	3	2	3
				<u><u>\$7,500 Income</u></u>				
Percent of Total Income	8.1%	8.6%	9.1%	8.2%	7.4%	7.6%	7.9%	7.6%
RANK	4	2	1	3	8	6	5	7
				<u><u>\$10,000 Income</u></u>				
Percent of Total Income	9.0%	9.9%	10.3%	8.3%	7.6%	7.8%	8.1%	7.8%
RANK	3	2	1	4	8	6	5	7
				<u><u>\$15,000 Income</u></u>				
Percent of Total Income	9.6%	10.1%	10.6%	9.4%	8.6%	8.8%	9.1%	8.8%
RANK	3	2	1	4	8	6	5	7
				<u><u>\$20,000 Income</u></u>				
Percent of Total Income	9.3%	9.7%	10.1%	8.9%	8.2%	8.4%	8.6%	8.3%
RANK	3	2	1	4	8	6	5	7
				<u><u>\$25,000 Income</u></u>				
Percent of Total Income	9.5%	9.8%	10.1%	8.7%	8.1%	8.2%	8.5%	8.2%
RANK	3	2	1	4	8	6	5	7

In the metropolitan area, the total tax burden of residents is second only to Prince George's County for all income levels above \$7,500. For the lowest income level, \$5,000, Montgomery County has the lowest tax burden.

suggest demands for shifting expenditure patterns. Relatively more emphasis may be called for on public expenditure programs which assist the elderly and meet the needs of childless couples and single individuals, as they represent a growing proportion of the County's population.

FINDING II — Different types of development have different impacts on the revenues and expenditures of the County.

Although it is hard to measure the fiscal impact precisely, some general observations about the effect of development on revenues and expenditures seem applicable to Montgomery County. Basically, industrial, commercial and high-rise commercial development tend to generate a surplus of revenues over expenditures, while garden apartments, town houses, single-family and duplex developments tend to produce fiscal deficits. Like all generalizations, there are important qualifications. High cost single-family homes normally return a fiscal surplus, for example.

The fiscal impact of any development is quite difficult to assess in isolation. First of all, indirect costs are hard to assign. These include such things as the cost of regulating newly generated traffic, or of additions to the health budget, or air pollution control expenses. Social costs, such as increased crime rates, or the effect of noise, are even more difficult to determine. Secondly, some kinds of development attract or require others. Industry, for instance, generates a demand for housing, which in turn generates other demands for public and consumer services. Fiscal impact is also affected where development occurs. If the sewers, roads, schools, and other facilities are already available and adequate, then the public cost may be less than if all of these services and facilities must be created just to serve a new area.

What is apparent is that fiscal balance requires a mixture of residential and non-residential development.

ISSUES

► 1. *To what extent and how should we manage growth to produce a more favorable fiscal position for the County?*

This issue must be carefully considered in relation to other major growth policy issues. A policy requiring development of significantly more low and moderate priced housing does not yield a fiscal position as favorable as one which restricts development to luxury housing. Careful consideration of the trade-off between a strong fiscal position and other socio-economic goals of growth policy make this a difficult issue to deal with.

► 2. *Should all new growth pay its own way in terms of County facilities and services?*

Certain types of new growth may assist in fulfilling major growth policy objectives or help generate positive attributes while other forms of new development may not pay their own way. Development of a new government office complex in an area of the County experiencing economic decline may not pay its own way, but may serve as a catalyst to redevelop the area. A moderate priced housing development may not pay its own way, but can assist in providing a more balanced community.

► 3. *Should we locate growth so that it makes maximum use of existing public facilities?*

The County is faced with the dilemma of excess capacity in schools and other public facilities

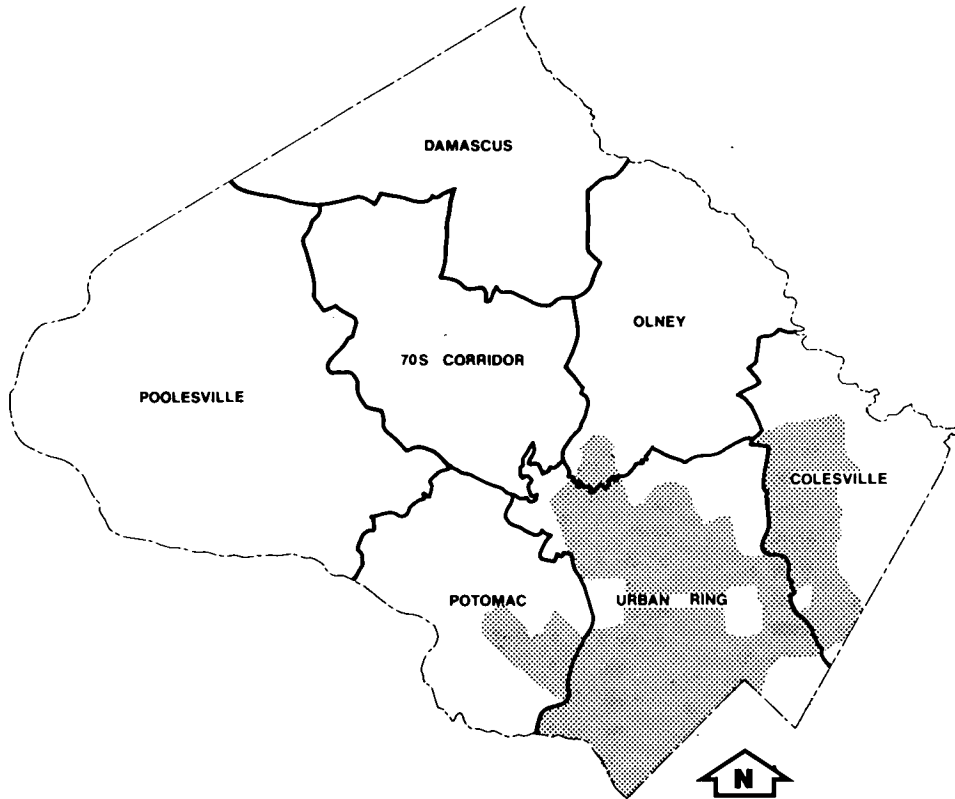


**SUMMARY OF ENROLLMENT TRENDS AND CAPACITY
LOWER MONTGOMERY COUNTY SCHOOLS**

Area	Actual Enrollment 1972	Estimated Enrollment			Capacity Range		Excess Capacity 1975
		1973	1974	1975	Low	High	
I (Bethesda-Chevy Chase, West Georgia Ave.)							
Elementary	10,704	10,230	9,780	9,465	12,911	15,456	3,446
Secondary	10,390	9,950	9,600	9,182	9,856	12,133	674
II (N. Bethesda, Veirs Mill Rd.)							
Elementary	13,328	12,374	11,557	10,742	14,825	17,750	4,083
Secondary	14,156	13,915	13,734	13,264	13,413	16,508	149
IV (East Silver Spring, Kemp Mill)							
Elementary	10,112	9,715	9,433	9,119	11,660	14,055	2,541
Secondary	9,703	9,713	9,618	9,578	10,335	12,720	757
TOTAL							
Elementary	34,143	32,319	30,770	29,326	39,396	47,261	10,070
Secondary	34,249	33,578	32,952	32,024	33,604	41,361	1,580

Excess school capacity in Montgomery County is concentrated in the mature, slow growth areas within the Urban Ring. The three areas described above have capacity for more than 11,000 additional students.

AREAS OF EXCESS SCHOOL CAPACITY



in mature neighborhoods, while demands for new neighborhood schools exist in rapidly growing areas. Exploring mechanisms for channeling growth to areas which have excess or adequate public facilities could result in significantly reducing the County's fiscal burden.

FINDING III — Some fiscal policies have significant effects on particular types of development.

Both revenue and expenditure policies of all levels of government affect how and where growth occurs—as well as the kind of growth. For example, State preferential farmland assess-

ment legislation has enabled some land to be prematurely assembled and other land to be held for long periods to increase its value.

The ability to deduct interest on home loans and real estate taxes from federal income tax is a major spur to the condominium movement. Federal depreciation schedules have had a strong effect on apartment construction. Assessment and reassessment procedures can have an important effect on whether underutilized areas are redeveloped or left behind as new land areas are consumed.

On the expenditure side, capital improvements are increasingly crucial to the location, timing

and scale of growth, especially now that they are basic to the approval of new subdivisions as required by the Adequate Public Facilities Ordinance. For the future, it would appear that expenditure for public facilities can have a substantial and predictable effect on the pattern and scale of growth. Tax incentives or disincentives are more likely to affect only the timing or character of private investor's decisions.

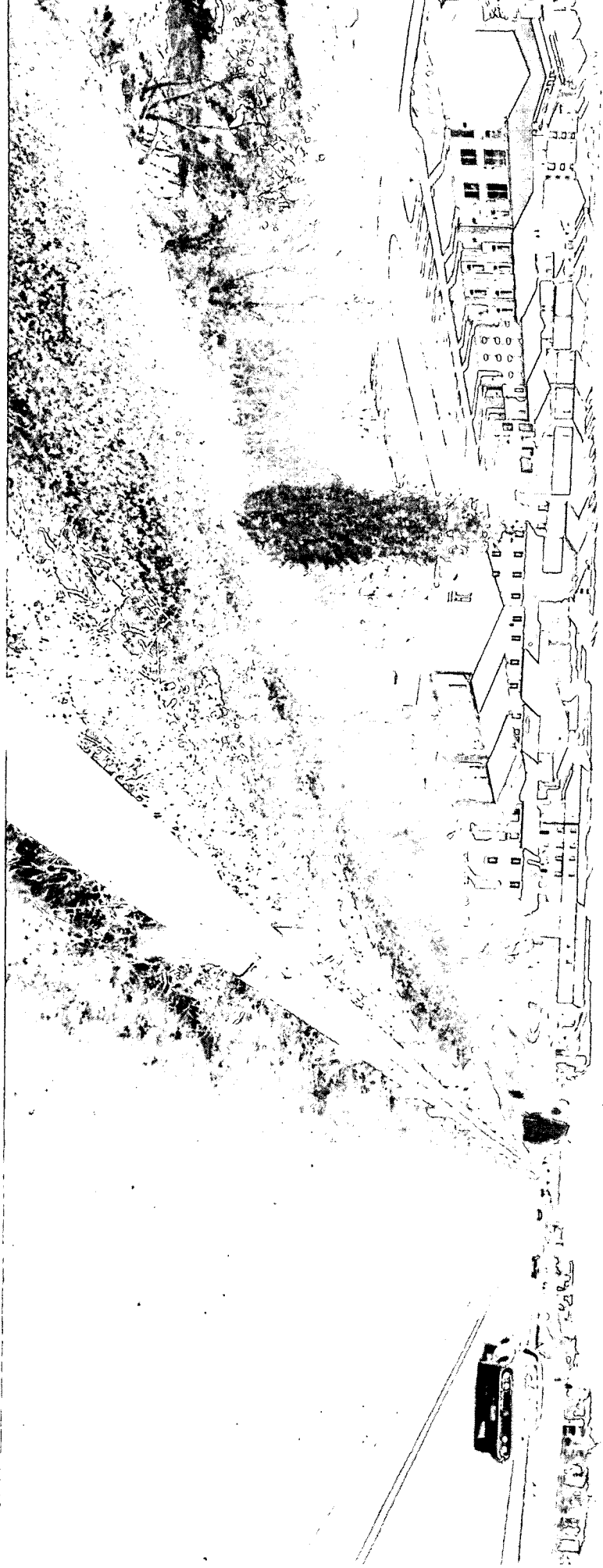
ISSUES

► 1. *What changes, if any, should we seek in tax policies to allow us more control over the rate, location, or type of growth?*

The existing property tax system provides little or no incentive to improve existing properties or redevelop declining areas. Land or site value taxation which bases tax assessments on the development potential of the land and does not penalize owners or developers for improving properties on the land might be considered. Provision of tax credits or other incentives to stimulate particular types of growth might also be considered.

► 2. *How should we utilize our public capital investments to induce or retard growth?*

Public capital facilities complement and enhance the development potential of areas which can draw on these services. Development follows the sewers. New homeowners include the value of neighborhood schools, adequate transportation facilities and other public facilities in their location decisions. Utilizing the quantity, quality and location of new public facilities may serve as an effective mechanism for influencing the amount and types of growth in the County.



Transportation Panel

Introduction

Transportation facilities and services have enormous influence over not only the quantity and quality of growth, but to a larger degree the location of growth. Recognizing this, the Transportation Panel has attempted to identify the interrelationships between transportation and growth, suggest desirable growth patterns, and explore the options available to the County in adapting transportation improvements to various growth policies and at the same time identify fundamental transportation issues.

A desirable transportation system both now and in the future must provide a level of mobility for people and goods and a degree of access to various land uses and activities that is compatible with regional as well as local needs. We expect a transportation system that provides us convenient, safe, dependable, and enjoyable travel. It should be an efficient system that provides choice of transportation at reasonable cost. Moreover, it should reinforce wider social, environmental, and economic goals such as health, conservation of resources, beauty, fiscal responsibility, and pride and respect for the individual as well as the community.

The Panel recognizes that: (1) our existing transportation system is inadequate to satisfy present needs; (2) there are limits to the resources available to meet those needs; and (3) growth creates its own transportation needs. How do we develop a transportation policy that enables us to *meet present needs*, while also allowing us to *anticipate and guide* rather than merely react to growth and development pressures? Further, what balance do we strike between the two objectives?

According to recent projections, if existing policies and trends continue during the next 10 year period, Montgomery County's population can be expected to increase about 30% by the year 1983 (167,000). Are we willing to accept this and can we support this in terms of economic or social costs?

Determination of a desirable rate and pattern of growth should depend on factors such as the County's ability to provide the necessary services to its citizens. The Panel hopes that the following report will serve as a contribution toward making that determination.

Panel Members

Mable Granke, *Chairman*
John Jordan, *Co-Chairman*
Dennis M. Kamber, *Co-Chairman*
Harvey Eisen
Robert Harper
Alex Hekimian, *Staff*
Joanne Jacka, *Coordinator*
Ray Mahaffey
Wolfgang Price
Helen Scharf, *Commissioner*
Patricia B. Willard
Dan Wooldridge
Robert Winick, *Staff*

The Transportation Panel, in preparing this report, participated in public forums on growth policy; reviewed reports and documents on County and regional transportation and interviewed several transportation experts from regional, State and local agencies. The Panel is indebted to the following:

Dr. Salvatore Bellomo, Alan Voorhees & Associates, Transportation & Urban Planning Council.
Mr. Edward Daniel, Montgomery County Department of Transportation.
Mr. John R. Hamburg, Creighton & Hamburg & Associates.
Dr. Stanley Hille, College of Business & Management, University of Maryland.
Mr. Harold Kassoff, Metropolitan Washington Regional Office, Department of Transportation.
Paul McGuckian, Esq., Attorney at Law, Rockville.
Mr. Mathew Platt, Assistant Director of Planning, WMATA
Mr. James Scott, Highway Research Board, National Academy of Sciences, National Research Council.
Mr. George Wickstrom, Director of Program Administration, Metropolitan Washington Council of Governments.

Transportation Panel

Objectives:

Montgomery County's transportation objectives are much the same as those of other urban, suburban and rural counties: mobility, accessibility, health, safety, dependability, convenience, and efficiency. However, the citizens do not have a clear cut idea of the priorities of these objectives, but assume that the decisions made are the best mix in light of the physical, political and economic constraints.

Components:

The transportation components existing in Montgomery County consist of the automobile, the Metrobus and eventually the Metro . . . which are all radially oriented. There is yet to be developed the necessary cross-county system which would provide access to the transit stations. Our County is almost totally dependent on the existing road system and personal mobility.

Trends:

Automobile ownership has increased steadily over the years. This trend is now leveling off as the saturation peak of 1+ cars per family has been reached.

Automobile trips per person per day have also been increasing; in light of the fuel shortage however, this trend may reverse somewhat, which may necessitate a higher percentage of person trips on public transportation and in carpools.

Public resistance has been and may continue to be a major constraint to increasing transit facilities and inter-neighborhood service. The trend toward higher densities near transit facilities may be the best incentive to foster increased transit ridership.

Forecasts:

Because of the County's reliance on the auto, projected forecasts of transit ridership are very low. A very small percentage of travelers now use transit. With Metro and improved bus service in full operation, only about 15% of work trips are expected to use transit. This figure might be increased if the rising number of smaller households are located within convenient distances to transit service and if many of these households decide to have no automobile at all.

A current report to the Planning Board by Consultants Peat, Marwick, Mitchell & Co. shows the percentage of work and non-work trips by mode of transportation:

PERCENTAGE TRIPS BY MODE OF TRANSPORTATION

Mode	Work	Non-work
Auto	90.7%	91.2%
<u>Transit</u>	<u>2.7%</u>	3.6%
Taxi	.2%	.2%
<u>Walk</u>	<u>5.2%</u>	4.3%
Motorcycle	.3%	.1%
Bicycle	.3%	.3%
Hitchhike	.5%	.2%

Transportation Interrelationships

The formulation of growth policy must by necessity include both short and long range issues. It would seem logical to deal with transportation issues as they relate to costs, land use, and the environment in a long-range framework. Conversely, the necessity to change public attitudes, to coordinate the County transportation decisions and to develop, investigate, and implement available options to improve mobility and accessibility are short-term realities.

COSTS

FINDING I — It is not financially feasible to provide adequate transportation to everyone at any time. This creates a need to establish priorities among modes and types of service.

ISSUE

► 1. Should the County attempt to provide transportation wherever there is a need regardless of cost or should it provide what is deemed essential service taking into account the social and economic impact of various modes?

FINDING II — The consistent economic demise of privately owned transit systems across the country has brought about a recognition that provision of transit requires subsidies for all forms of public transportation.

ISSUE

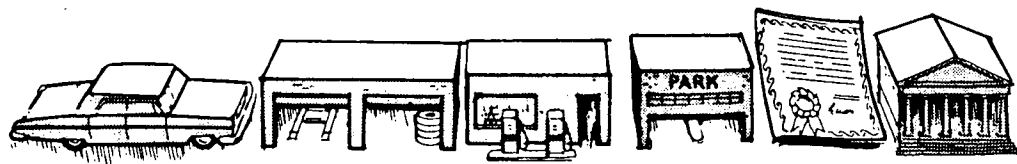
► 2. Should we treat transportation with full subsidy like our schools, fire, and police systems and who should absorb the costs? (% Local, % State, % Federal)

Due to many factors including the energy crisis, the public is becoming aware of the costs and consequences of their present modes of transportation, making transit more attractive. The current system of financing transportation discriminates against transit usage by obscuring the real costs of the automobile while exposing the full cost of transit ridership.

FINDING III — The public is not fully aware of the true costs of either personal or mass transportation in making its travel decisions.

COST OF OPERATING AN AUTOMOBILE

SUBURBAN BASED OPERATION CENTS PER MILE



	ORIGINAL VEHICLE COST DEPRECIATED	MAINTENANCE, ACCESSORIES, PARTS & TIRES	GAS & OIL (EXCLUDING TAXES)	GARAGE, PARKING, & TOLLS	INSURANCE	STATE & FEDERAL TAXES	TOTAL COST
STANDARD SIZE	4.4¢	2.6¢	2.1¢	1.8¢	1.4¢	1.3¢	13.6¢
COMPACT SIZE	2.7¢	2.2¢	1.8¢	1.8¢	1.3¢	1.0¢	10.8¢
SUBCOMPACT SIZE	2.1¢	2.1¢	1.4¢	1.8¢	1.2¢	.8¢	9.4¢

ISSUE

► 3. Are there means for making the public aware of the differences in capital and operating costs of transit and automobile transportation?

The costs of auto travel are buried in the personal budget; such as licensing, insurance and other infrequent payments toward the operation of the automobile. Transit costs are more obvious because of the need to approve through the County budget and because the consumer pays for each individual trip.

If the real costs of transportation (social, environmental, and developmental) were publicized comparing alternatives, decisionmakers could make more logical choices, and an informed and supportive citizenry could speed the process towards implementation.

Monthly Pass
Yearly Pass
RTA fare structure

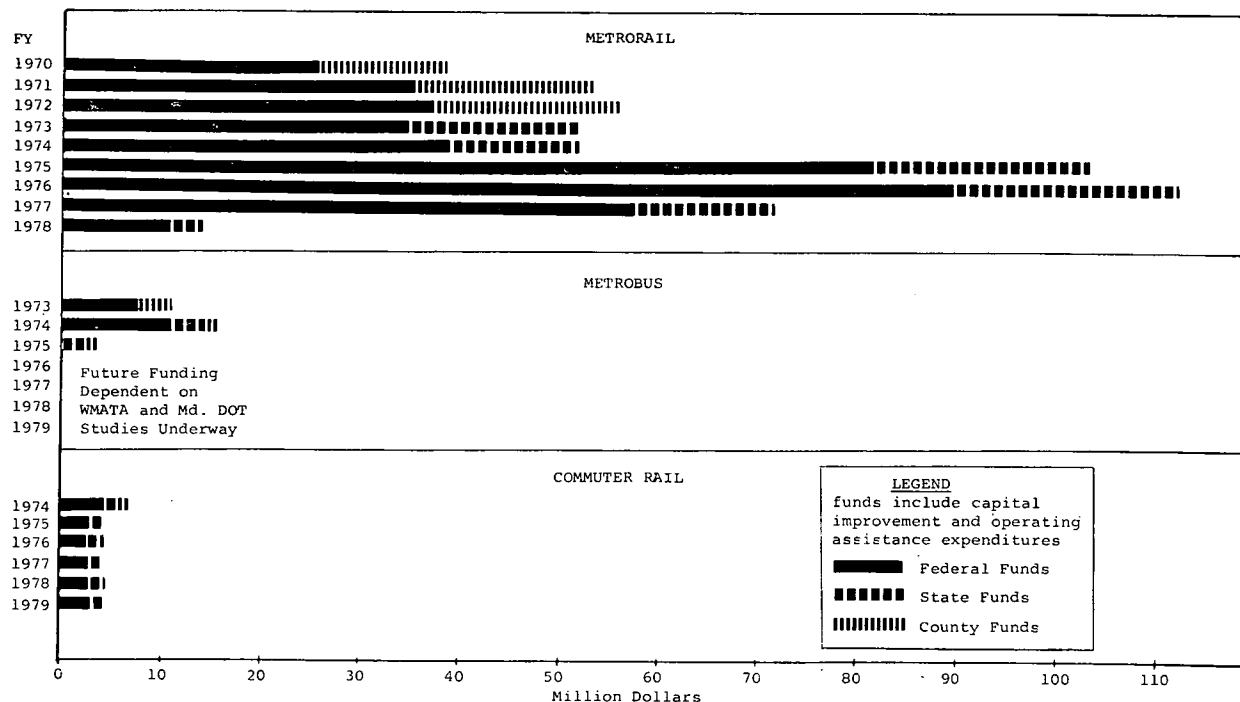
FINDING IV — The commitment Montgomery County has already made toward mass transportation has strong implications for growth policy. Millions of County dollars have been and will continue to be allotted for Metrorail, Metrobus, and commuter rail.

The bar graph shows that the County has already spent about \$50 million for Metrorail and about \$5 million for Metrobus. Indications are that even with increased Federal and State aid, County expenditures for mass transportation will be substantial.

ISSUES

► 4. What future action on the part of County residents is necessary to ensure that our investment in mass transportation will be a sound one?

APPROXIMATE FUNDS ALLOTTED BY GOVERNMENTAL JURISDICTIONS FOR TRANSIT PROJECTS IN MONTGOMERY COUNTY — FY 1970 - 1979



► 5. Are we prepared to support it with our tax funds and our ridership?

► 6. Will land uses be patterned in such a way as to promote high usage of Metro and commuter rail?

► 7. Will the ensuing increases in population density and means of access to transit stations preserve or upgrade our quality of life?

LAND USE

FINDING I — The transportation system is an important factor under public control, influencing the general volume, pattern, density, and quality

of growth in Montgomery County. It can stage, encourage, accommodate or limit growth by its presence or absence, by its timing, capacity, and convenience.

The implementation of the General Plan, for instance, depends upon high capacity transportation corridors. Land use, in turn, directly affects the volume and character of travel. Industrial and residential growth is possible only by its proximity to a transportation corridor. The capacity of a transportation system is a constraint on overall growth and local capacity may be the most serious obstacle to the development of an urban area. Without adequate transportation (both

transit and auto) neither corridor cities nor other urban areas can develop without inflicting heavy impact on the total County.

ISSUES

► 1. *Should transportation be the servant or determinant of growth?*

► 2. *Is the General Plan concept of 70-S as the major development corridor still viable from a transportation standpoint?*

► 3. *Should we examine the existing land use trends along Georgia Avenue and Route 29 and recognize and anticipate their corridor characteristics?*

► 4. *Should we encourage a balance between housing and job opportunities in such a manner as to reduce the need for transportation in congested areas?*

► 5. *How can we use transportation to best direct growth in the urban ring?*

► 6. *What are the best mixes of land uses to reduce dependence on auto transportation and promote balanced use of transportation facilities?*

► 7. *At what point does increased density become counter-productive through overdemand for services, urban blight, depersonalization, and congestion?* ??

► 8. *What major transportation facilities are required to shape future growth?*

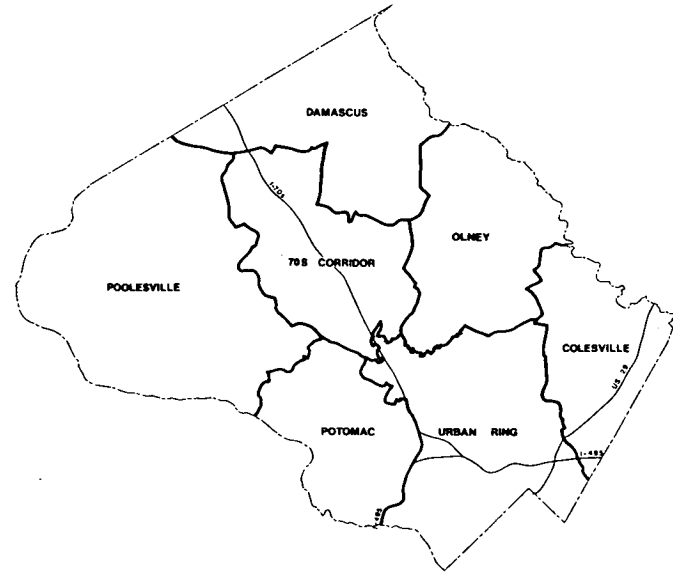
If we follow the General Plan, certain facilities such as the Outer Beltway, 70-S widening and Metro extensions must be built. Our growth policy should make some choices as to what facilities to build and in what order to build them. The question is also raised as to whether it is more or less costly to follow the General Plan

MAJOR TRANSPORTATION CORRIDORS

and whether there is a more desirable alternative from which to pattern our future growth?

We must deal with the problem of where to locate various types of land use so as to decrease the generation of auto trips and discourage the use of congested transportation facilities. Traditionally we have attempted to provide roadways adequate for all traffic. As more roadways were constructed, traffic multiplied until the facility was again obsolete. It is now understood that more roadways provide more demand in an ever increasing cycle, making both financial and social costs and the amount of land required too great. Although the automobile is and will continue to be the dominant transportation in the County, citizens have expressed a need for (1) more public transportation; (2) various modes of personal transportation; and (3) alternative methods of developing land to better accommodate existing and future modes of travel.

For example: 70-S is one of the most heavily traveled roads in our County. Much of the traffic (as intended) may begin or end its trip outside Montgomery County, but of necessity a large percentage of the traffic is local. The adoption of the Wedges and Corridors concept and ensuing policy has encouraged major industrial and housing development. The Germantown Plan is predicated on the needs of the 70-S Corridor. However, has the time come to re-examine and re-evaluate what is happening along 70-S particularly in view of trends in other corridors? Unless monies can be diverted from other major primary road projects to the Outer Beltway, the 70-S Corridor is locked in without any potential for flow of traffic to the eastern side of the County. This means traffic must use an already overloaded Beltway before dispersion. At present, there is no public



transportation serving 70-S. As the Corridor stretches, the potential for an efficient and convenient transportation system becomes very difficult.

FINDING II — The effect of not providing the transportation that was recommended in the General Plan produced and continues to produce a different and more scattered pattern of development.

In the past, the County has concentrated its development on the 70-S Corridor with the Baltimore-Washington Corridor being far less developed. It has been noted that Route 29 actually has far more capacity than 70-S. This Corridor from the White Oak area north to the Howard County line has been developing steadily without official sanction since 1965. Projected 20 year highway plans indicate a further widening of Route 29 from 4 to 6 lanes all the way into Howard County. Can we ignore the existing and

potential impact that the new city of Columbia will have on the way in which we plan for and develop our County?

Montgomery County is strategically located between two major metropolitan areas. Our future is linked to both and we must find the most advantageous method to capitalize on this unique geographical situation. Therefore, we need to take a new approach when determining what kind of transportation system should serve any given area. Instead of providing roadways to meet the needs of the automobile as we have done in the past, we need to determine what amount of roadway an area can tolerate based on social, environmental, and land use considerations . . . and fit development within that framework. Since additional transportation needs must be met by either a separate facility . . . such as Metro; or by non-facility means . . . such as carpools, walking, or staggered work hours . . . then planning for these needs becomes an inherent part of the same process that determines development densities.

ENVIRONMENT

FINDING I — The expansion of the transportation system in both developed and undeveloped areas of the County will have many environmental impacts on both the immediate surroundings and on more remote areas.

Impacts include changes in: air quality, water quality, noise levels, land use, social and cultural patterns, energy consumption, natural resources, materials consumption, solid wastes, and biological communities.

Clearly automobile emissions are the primary source of air pollutants in the region. This negative effect of the transportation system on the environment has penetrated the public consciousness over the last few years, but to date few positive solutions have elicited public consensus. This stems in part from the diversity of non-conclusive findings by experts—creating public confusion and official lethargy.

The State Department of Health stated that tests they had conducted revealed no dangerous levels of carbon monoxide in the air. They amplified this finding with the caution that photochemical-oxidants created by the action of the sun on auto emissions will spread uniformly and blanket the entire region with air pollution in periods of thermal inversion and other atmospheric conditions.

ISSUES

► 1. *What transportation strategy should be pursued to mitigate or overcome the emissions problem?*

Last year, in spite of overwhelming opposition by the automobile industry, the National Environ-



mental Quality Act—Ambient Air Regulations were adopted requiring pollution control devices on all vehicles with internal-combustion engines. The regulations have yet to be implemented and the fear is that they may be delayed due to the fuel shortages.

Possible long-term increases in levels of emissions from internal-combustion engines may result from (1) increased distance traveled, (2) increased vehicle trips, (3) increased vehicle density, and (4) possible increased time spent by vehicles in a given area as a result of traffic congestion.

Traffic studies show that low density development generates more vehicle miles of travel per

acre than high density development. Zones are now available in Montgomery County that permit development which contains not only residential uses, but consumer uses that reduce the need for auto travel. The newest of these is the Planned Development Zone. The Transit Station Area (TSA) and Central Business District (CBD) Zones also provide uses and densities that minimize the need for excessive auto trips. It has also been shown that stop and go traffic generates more pollutants than free-flowing traffic . . . which lends support to the implementation of more controlled traffic management techniques along arterials as well as limited access thoroughfares such as the Beltway.

Finally, studies have yet to explain the long-range effects of daily exposure to even low levels of carbon monoxide such as that received by the daily bus commuter. COG is presently studying strategies to reduce vehicle miles of travel in the region by 1977. Among these strategies are controls on the amount of parking space available, controls on the cost of commuter parking, promotion of transit usage, and carpooling. The Federal Department of Transportation (DOT) and the Environmental Protection Agency (EPA) are studying the feasibility and impact of peak-period auto charges and auto-free zones.

► 2. *What standards of environmental impact should transportation systems be required to meet?*

Blanketing the land with concrete has dire environmental consequences; the ravaging of the remaining open land, the destruction of natural wild life habitats and biological communities, the rapid consumption of natural resources, and the impairment of the natural propensity of land, air, and water to revitalize itself.

For example, construction of transportation routes may cause temporary local increases in stream sediment loads which may temporarily impact aquatic life, water supply treatment, and recreational use. Continuing effects may result from runoff from pavements to receiving streams or treatment facilities which may carry (a) increased water volumes, (b) pollutant materials such as oils, sand, salt, and organic matter, and (c) spilled hazardous materials. Secondary impacts may result from accompanying development which increases water consumption and wastewater production.

Similar impacts from transportation construction and increased capacity emanate from noise and solid waste, changing the economy and the existing culture of affected communities. Construction of a highway or a transit facility has a major impact on the environmental character and quality of a neighborhood. A closer look needs to be taken at the standards of design and alternative and attractive means of off-setting these impacts when transportation facilities are proposed and built.

Transportation Improvements

PUBLIC OPINIONS AND ATTITUDES

FINDING I — Major changes in the transportation behavior of County residents and workers is necessary for a public transportation system to become an alternative to the automobile; and an efficient public transportation system must be available to people to induce them to change their travel habits.

A change of people's ingrained transportation habits may be necessary to entice them from one mode of transportation to another. These would include incentives; financial, environmental, and travel time savings. They could necessitate disincentives such as fuel and parking hikes, traffic management restrictions and prolong the ever present congestion. We are concerned with what direction future transportation system development should take and how we should go about reaching the desired condition. In this regard we should stress the role of positive and negative incentives to motivate change in behavior patterns.



ISSUE

► 1. *Should a transportation plan include an educational program and necessary incentives and disincentives to effect changes in lifestyle as well as changes in the structure of the transportation system?*

EXAMPLES OF INCENTIVES:

1. Improved public transit.
2. Public education on the benefits of public transportation.
3. Specific advantages to those auto operators who carpool. (e.g., use of express lanes and parking spaces)
4. Specific advantages to those who use public transportation. (e.g., deductions from income tax)
5. Reduced fares for all or special groups of riders. (e.g., handicapped, elderly)
6. Reduced fares for non-peak hours.
7. Subsidy from employers to workers who carpool or use transit.

EXAMPLES OF DISINCENTIVES:

1. Higher gasoline costs.
2. Fuel rationing.
3. Reduction of parking space.
4. Increase of parking costs.
5. Preferential treatment for buses (traffic management).
6. Personal property tax on cars based on horse-power instead of the cost of the automobile.

GAS TAX FOR TRANSIT

The automobile will continue to be a major mode of transportation in Montgomery County; however, the construction of major new roadways or of substantially increasing road capacity in the developed areas of the County is generally opposed by neighborhood groups, and based on recent history, unlikely to occur. Public transportation can optimistically only provide 15% of daily commuter trips. ??

Local opposition may also reduce the effectiveness of public transportation—both Metro and buses.

People want to have mobility, accessibility and a choice of transportation system to get around the County. Many groups in the County simply cannot travel because of the lack of public transit. Who are the real potential riders in addition to the captive ones (the poor, the young, the elderly, the handicapped, the non-drivers)? They would definitely include the young marrieds, living in apartments conveniently served by express buses to a waiting rail or Metro line. They would include many cross-County shoppers if the lines were convenient. And they would include the dedicated advocate of public transportation—trying to make a statement regarding energy savings. People must have mobility, accessibility and a choice of transportation system to get around and

through the County. How do we achieve this in less densely populated areas not now serviced by Metrobus or later by Metro? How do we improve cross-County (lateral) transportation to serve pedestrians and bicyclists as well as commuters?

Today the evidence is strong that transportation plans must consider major changes in the suburban lifestyle. The pressures for change are increasing road congestion, the unacceptability of auto pollution, the apparent unwillingness of people to pay either the capital or social costs of expanding the existing transit system and, now, questions of continuing to squander energy.

The problems for transportation planning today are that the new trends in our life patterns are not yet clear. Thus, at present, we do not yet know what to plan for. However, the state of flux in the suburban lifestyle today can also be seen as an advantage in transportation planning. Because transportation trends are not obvious, there is the opportunity for any transportation plan to attempt to influence these trends through its design and through the education of the populace that will use the transportation system in the future. The suburbanite recognizes that changes are inevitable; indeed, anticipates change and is likely to follow strong leadership.

A transportation plan should include an educational program and necessary incentives and disincentives to produce changes in lifestyle as well as changes in the structure of the transportation system. We will need to generate increased interest in the use of commuter rail, Metro, and feeder buses. Well thought out short and long-range programs announcing the impact of our advancing transportation situation should be completed at an early date incorporating flexible implementation schedules. To establish a good public

image a program of regularly scheduled reports on the progress and status of the various Metro stations and additional bus lines should be undertaken.

FINDING II — The public has supported the development of a mass transportation system and more recently has expressed strong support at public hearings for improved bus services.

At the same time, auto ownership in the County has increased per household. Also, support of a mass transportation system in the abstract is different than support of a bus route in our neighborhood, or a transit station with a parking lot in our vicinity. While interest in and willingness to commit funds to transit is stronger than ever before, there is still some ambivalence in the County towards developing an efficient bus and rail transit system.

ISSUE

► 2. *How do we obtain the necessary support for mass transit systems when they are not likely to provide the primary transportation for most of the people in the County.*

The importance of a public transportation system is not that it serves everyone but that it provides the primary means of movement for many groups and indirectly serves the entire population by reducing the overall inconvenience of the total system.

What new processes, if any, need to be established to assure the County that its transportation system is being planned and built in the context of an overall growth policy and with proper attention to all methods of transportation?

DECISION MAKING PROCESS

FINDING 1 — Responsibility for the County's transportation system is dispersed among a number of State and local agencies requiring a high degree of coordination to produce a comprehensive transportation strategy.

The *State Department of Transportation* (DOT) is unique because it has a consolidated transportation trust fund which can funnel money into diverse projects (rapid rail, highways, commuter rail, rolling stock, bikeways, and even airports). In planning, its major programs are the 20 Year Needs Study and the 5 Year Program. State DOT, although still in its infancy, is one of our major monetary as well as data resources.

The *Washington Suburban Transit Commission* (WSTC) is legally a caretaking agency. It has the responsibility for coordination of the transit plan in the bi-County area. Programming is primarily a *Montgomery County Department of Transportation* (DOT) responsibility. It is concerned with what is in the Capital Improvements Program (CIP) and with short-range decisions such as those being exercised by WMATA.

The *Washington Metropolitan Area Transit Authority* (WMATA) was created by Interstate Compact in 1966 to provide an organizational entity to build a rapid rail system. Under the Compact, WMATA's authority is rather broad and at present not all utilized. They have no taxing authority and when there is a question of regional vs. local type of service, funding is a very sensitive problem. WMATA has no organizational facility to run a non-route type bus service. The Compact limits privately run operations to under 11 passenger vehicles in order to prevent competition. If a private concern were defined as a taxi-company, it

would be subject to the regulations in the *Montgomery County DOT*. If it were a public carrier or if it crossed into the District, *Washington Metropolitan Area Transit Commission* (WMATC) would have regulatory jurisdiction. If one was interested in a charter-type bus service like that at Columbia or Reston operating on a monthly subscription basis, it could not be an open-door bus service along the route. Private transportation companies historically and nationwide have been folding without public subsidies and the public has been resistant to subsidizing private enterprises. The *Transit Authority* is a huge organization with 2,000 on-street buses and a \$3 billion rapid rail system underway and yet is dependent on local jurisdictions and Congress for its financing.

The *Transportation Planning Board* (TPB) for the *Council of Governments* (COG) is a regional resource body that provides the total region with data which local jurisdictions can utilize as part of their responsibility for continuous comprehensive and cooperative urban transportation planning. There is communication at the planning directors' level as well as the technical level on land use, transportation, and issues related to urban growth. COG's main thrust is to enable local jurisdictions to plan in such a way that their efforts are compatible and can flow into each other naturally. COG initiates demonstration projects, but for a limited time only before they require the local jurisdiction to absorb the costs. If the local jurisdiction does not pick up this option, the project dies—such as an express bus service called the Capital Flyer. The Shirley Highway Project is still underway because *Northern Virginia Transportation Commission* (NVTC) picked it up.

Maryland National Capital Park and Planning

Commission's (MNCPPC) responsibilities are primarily long-range County and bi-County planning, but they must be able to work at the same time on some detailed transportation considerations. Similarly, *County DOT* has complementary functions—they cannot work solely in the short-range or in operational areas without being able to look toward a broader long-range perspective. On-going studies such as the Silver Spring Station Parking Project, previously funded by WSTC, was recently transferred to *County DOT*.

The County Executive's *Office of Planning and Capital Programming* (OPCP) also plays a role, particularly in the staging of transportation projects through the Capital Improvements Program (CIP). While the MNCPPC has responsibility for County-wide and community transportation planning, *County DOT* and *OPCP* must also be involved in the transportation planning process, furnishing information and assessing transportation alternatives and costs.

The planning agency that is provided with the responsibility of disposition of issues often does not have the authority or implementing tools to carry out those responsibilities. Within this complicated network of decision making agencies, it can be easy to escape responsibility for decisions; however, this diffusion of power has some benefits. In the competition to get a piece of the allocated funds, most problems are considered and major issues are raised for public debate. This gives the public more points of access where they can get across their points of view.

Additional implementation factors to keep in mind include the Certification Plan which shows types of extensions to the year 1992. These have major impact on WMATA. COG also has review over any federal transportation funding applica-

FUNCTIONS OF SIX MAJOR AGENCIES RESPONSIBLE FOR PLANNING AND IMPLEMENTATION OF TRANSPORTATION IN MONTGOMERY COUNTY

Md. DOT Maryland Department of Transportation

Functional Activity	Transportation Modes and/or Services								
	Highways	Buses	Rapid Rail	Railroad Commuter	Goods	Taxi	Bikeways	Airports	Other
Financing									
Planning			(State-Wide Plan)						
Programming									
Design									
Right of Way									
Construction									
Operations									
Maintenance									
Other				Purchase of Rolling Stock					

C.O.G. Washington Metropolitan Area Council of Governments

Functional Activity	Transportation Modes and/or Services								
	Highways	Buses	Rapid Rail	Railroad Commuter	Goods	Taxi	Bikeways	Airports	Demonstration Projects
Financing									
Planning									
Programming	Unified Work Program								Capital Plan
Design									
Right of Way									
Construction									
Operations									
Maintenance									
Other	A-95 Review, 204 Agency								

WMATA Washington Metropolitan Area Transit Authority

Functional Activity	Transportation Modes and/or Services								
	Highways	Buses	Rapid Rail	Railroad Commuter	Goods	Taxi	Bikeways	Airports	Other
Financing									
Planning									
Programming									
Design									
Right of Way									
Construction									
Operations									
Maintenance									
Other									

W.S.T.C. Washington Suburban Transit Commission

Functional Activity	Transportation Modes and/or Services								
	Highways	Buses	Rapid Rail	Railroad Commuter	Goods	Taxi	Bikeways	Airports	Other
Financing									
Planning									
Programming									
Design									
Right of Way									
Construction									
Operations									
Maintenance									
Other									

tions by local governments in the area. The State of Maryland in its proposed Action Plan for transportation will follow federal procedures on all State projects.

ISSUES

- 1. How can transportation decisions be made more responsive to growth policy?
- 2. Should the decision making process be simplified or more widely publicized?
- 3. Who has the final authority in making transportation decisions and how much responsibility should the local body have?

MC DOT Montgomery County Department of Transportation

Functional Activity	Transportation Modes and/or Services								
	Highways	Buses	Rapid Rail	Railroad Commuter	Goods	Taxi	Bikeways	Airports	Parking
Financing									
Planning									
Programming	County	Potential							
Design	and Local								
Right of Way	Local	Service							
Construction	Roads								
Operations									
Maintenance									
Other						Reg.			Entrance

M.N.C.P.P.C. Maryland National Capital Park and Planning Commission

Functional Activity	Transportation Modes and/or Services								
	Highways	Buses	Rapid Rail	Railroad Commuter	Goods	Taxi	Bikeways	Airports	Other
Financing									
Planning									
Programming									
Design									
Right of Way									
Construction									
Operations									
Maintenance									
Other	Mandatory Referrals of Public Facilities								

COUNTY TRANSPORTATION NEEDS

Findings

FINDING I — The absence of adequate lateral (cross-County) travel routes is one of the crucial transportation problems.

Arterial congestion makes concentrations of growth along the corridors more difficult and the lack of cross-County corridors increases the difficulty of developing and operating an efficient system of buses feeding into the transit stations.

There are also a limited number of major radials . . . particularly striking is the 70-S Corridor. The Eastern and Western arterials are planned for, are in the budget and yet projections show that it will be 1980 before they can relieve any of the flows presently confined to 70-S. Even when the Metro is finally operative (late 70's—early 80's) the entire radial needs will not be met.

ISSUE

► 1. *What improvements should be made in cross-County transportation?*

The major planned cross-County route is the Outer Beltway. Both the timing of this facility and its traffic capacity are at issue. Questions may also be raised about whether the entire Outer Beltway should be constructed as planned, particularly in the western side of the County. The Rockville Freeway, which had been planned as a cross-County facility is currently being restudied and may either be abandoned altogether or become a transportation corridor devoted to non-auto uses.

Another aspect of the issue is provision of routes for bus service which could link transit stations or employment centers and housing on

different sides of the County. Both the road and transit systems are essentially arterial, feeding into the District of Columbia. Only East-West Highway, the Beltway, and Randolph Road afford substantial cross-County circulation. The absence of lateral routes and the limited number of arterial roads increases arterial congestion because trips cannot disperse.

FINDING II — The delivery of goods interferes with local transportation timing and scheduling.

ISSUES

► 2. *Can we provide alternatives to rush hour deliveries?*

► 3. *Can deliveries be made at off-street facilities?*

► 4. *Should we implement an underground system in the CBD's (to eliminate the congestion caused by delivery vehicles blocking roadways)?*

Any large scale transportation hauling by the County, such as solid waste or sewage sludge, should ideally be done by a rail haul system. Since the developed areas produce most of the solid waste, processing centers or at the least transfer stations located in developed areas would require less transportation. The street system in these developed areas already carries a large amount of traffic and the collection vehicles are already there. If transfer stations and disposal sites are located along existing rail lines so that rail haul is available, the facilities need not disrupt the local area. Without the truck traffic, such a site, properly landscaped for appearance and noise control would not be offensive to adjacent neighborhoods. These facilities can serve as physical barriers between areas of differing densities

to allow intensive development without threat to an established neighborhood.

FINDING III — Local and through traffic should be separated for the benefit of both.

Local traffic slows movement of through traffic. Through traffic adds congestion to local streets. Each intensively developed area should have provision for its own local traffic so that this traffic will not need to use the regional system. The newer residential areas are designed to eliminate through traffic. Future developments should certainly provide for this and, if possible, should attempt to alter travel patterns in developed areas to accomplish this objective. Interestingly enough, this is one objective of the interstate highways and the freeways that have been consistently opposed in recent years. Provision for this division of traffic should be made in the original plans if it is to be a reality.

ISSUES

► 5. *What measures can be taken to prevent overloading of transportation facilities and to separate through and local traffic?*

► 6. *Can we implement new traffic management techniques such as electronic controls or staged congestion?*

Much of the traffic on these roadways either begins or ends its trip outside Montgomery County. However, both facilities carry a large amount of local traffic. Much of the local traffic is of a kind not readily served by mass transit and requires the use of a private automobile at one end of the journey.

How are we going to deal with increasing traffic on these roadways as the County and our

County become more populous? One suggestion is to develop a method of providing electronic controls for vehicles using this facility. This would greatly increase capacity and might eliminate accidents. Since this traffic comes from and goes to many different locations, serious exit problems should not result. Although we tend to think of this type of system as being far in the future, it is within our technical ability, and the potential benefits for all metropolitan areas are so substantial that a federal research program directed toward this system could begin immediately. Such a system would combine the use of the private automobile with a public transportation facility.

► 7. *Can we assess the need for better interconnections between various modes of travel: car/bus, bus/rail, rail/truck, bike/bus, etc.?*

The scheduling and timing is most critical for delivery vehicles at present, but when Metro arrives, easy linkage and transferability among modes to and from the stations, could be the major criteria which will determine its success or failure.



VIALE TRANSPORTATION ALTERNATIVES

The existing transportation system is inadequate. In coping with this reality we have made the assumption that transportation decisions dealing with a one to two year time frame would classify as short-term approaches or solutions. Short-term demand often means immediate cries for action on some unmet transportation service. Short-term supply is determined by available resources; fiscal, political, and organizational. There are a number of crucial factors which call for immediate solutions: the fuel shortage; the need for cross-County transportation; the pre-Metro commuter transit; and improved traffic management in select locations. Alternatives to be investigated include:

- Dial-a-ride or a personalized demand-responsive system. ??
- Improved and increased County-wide bus service.
- Carpooling with reserved lanes.
- Traffic management pilot projects.
- Increased staff and organizational capabilities with which to implement crash projects.

Traffic Management

FINDING I — There is a need to implement traffic management techniques.

In the past *traffic engineering* techniques were directed towards moving as much traffic as possible, treating all vehicles as equally important. It attempted to eliminate congestion and provide capacity to meet demand. Such techniques can be very effective in providing maximum capacity along a roadway. They are generally understood

and accepted by the public and do not involve political decisions. Capacity does have a limit beyond which additional improvements are ineffective.

Traffic management techniques are directed towards controlling the movement of traffic to accomplish some objective other than providing maximum capacity at all points of the roadway. Such techniques may be used to allow for movement of emergency vehicles, for priority movement of buses, for bicycle lanes, or for any other objective that is judged sufficiently important. Traffic management attempts to eliminate congestion for some vehicles, but not for others, and to limit demand to available capacity.

These techniques are new and probably not well understood by the public. The objective of any given operation may not be readily apparent since it concerns an areawide, as opposed to a local pattern of traffic control. Because the application of these techniques involves giving priority to certain vehicles or movements, political decisions are necessary. These techniques are generally designed to allow the roadway to be used for an additional service without actually reducing capacity.

Henry Bain recently presented a report outlining traffic management techniques for allowing buses to bypass the congested intersections along Connecticut Avenue. If protection of existing neighborhoods is the goal, traffic management techniques and disincentives may have to be used to actually decrease the capacity of the existing automobile-user system.

Traffic engineering and traffic management are both related to growth, primarily as tools to move traffic generated by future growth, through existing streets in developed areas. Opposition to

expanded road systems through developed areas has eliminated the traditional method of increasing facilities to serve increased demand. Both techniques have a place in improving the movement of traffic. However, neither of them will provide enough capacity to carry all the traffic that would like to use the roads. Other methods must be used to move people through these areas, and to provide alternatives to people who do not wish to drive on congested streets.

Currently, a very strong effort is being made cooperatively on a regional basis by COG, the Washington Board of Trade, and WTOP Radio, to encourage employers and employees to try *car-pooling*. Other areas in our region are experimenting with traffic management techniques as well . . . notably the opening up of exclusive bus lanes on Shirley Highway in Virginia to car-poolers.

Metro-Bus

FINDING II — Bus transportation is currently a real alternative only to those living on major corridors or near major shopping centers.

With the acquisition of Metrobus many improvements are proposed, among them the following:

1. WMATA in conjunction with County transportation staff could up-grade existing cross-County runs.
2. Empty night runs could be evaluated and possibly eliminated.
3. Day runs could be re-evaluated to better serve existing densities.
4. Regular new routes could be determined and installed.

ISSUE

► 1. *How soon and by what means can we improve bus service in the County?*

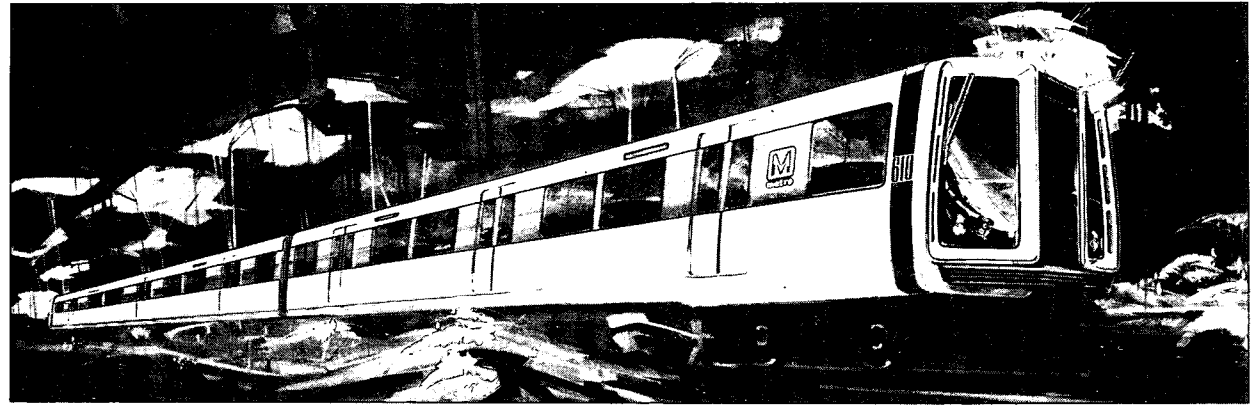
The ability of people to be able to travel across the County is difficult at best in an automobile and almost impossible by public transportation.

Hope for relief lies in a recent consultants' report to the Planning Board and in recommendations by the County Executive which call for a network of new bus routes for both peak and non-peak hours which can begin to serve as the bus transit framework for Metro. The proposed systems would also more adequately serve the students of Montgomery College and the University of Maryland. In order for these proposals to be workable and fill the unmet needs, the necessary funds must be committed. A word of caution is necessary. Any bus transit improvements made for the immediate or short-range must also be looked at from their long-range potential. Whatever is done must be planned so that it can mesh with the regional system.

Metro

FINDING III — The Metro system in itself will serve only a small fraction of County travelers even when in full operation.

Metro may become the major catalyst in changing travel habits from autos to public transportation. The success of the whole system depends upon assuring Metro maximum use by providing a good feeder bus system and by locating as much new residential development and employment as feasible within walking distance of Metro entrances and feeder buses.



ISSUE

► 2. *What advance techniques can we adopt to ensure optimum use of Metro when it arrives?*

Consideration should be given to establishing bus routes serving the future Metro station areas so that ridership habits can be established. The construction of future Metro parking lots might also be accelerated for use in the interim as fringe parking for bus service or carpools.

Metro has been the catalytic force which has enabled Montgomery County to reorganize and re-vamp its thinking and planning not only for transportation but for the community as well. While Metro represents real hope for the future, it also means agonizing decisions and social as well as physical change. Metro provides the regional transportation skeleton on which an entire commuter network can be built. With the acquisition of the privately owned bus systems in the region in 1973, the potential for a fully inte-

grated transportation system was substantially increased.

Our fiscal commitment has been and will continue to be considerable. Because the Metro is radially oriented, efficient operation depends upon an adequate feeder bus system.

Metro cannot efficiently serve a low density County unless we are prepared to accept high costs for bus subsidy. Another approach would be to develop at high densities near Metro stations to support it economically. A compromise approach might provide partial subsidy for buses (express and feeder lines) with well-planned higher densities around some Metro stations. With these improvements to the system and the community, Metro can move more people more efficiently and become the primary alternative to the automobile. In addition, it can be the prime stimulus to the future development of particular areas of the County and hopefully a disincentive to further development in the wedges.

Commuter Rail

FINDING IV — In order to become a viable alternative, commuter rail must be subsidized substantially.

One of the alternative modes of travel suggested for Montgomery County is the commuter rail . . . a high speed radial rail service which generally serves only those areas in a 10-40 mile range from the central core of a large city. Typically they run every 10 minutes and fares or tickets are collected on board.

The existing Brunswick, Md.—Union Station trackage of the B & O through Montgomery County is reasonably well located and adaptable for commuter rail service. Over the years the usage of this line for commuter service has dropped tremendously due to several factors: the increased use of the automobile and the inherent proliferation of roads; the decrease in frequency of service and subsequent rise in fares; the limited parking facilities and non-existent feeder bus access—either in Montgomery County or from Union Station (an area containing less than 5% of downtown employment); and the increasing deficits through devaluation and depreciation of equipment.

To be really effective, commuter rail should be regional in operation, that is, trains originating in Brunswick ideally should go to Union Station, L'Enfant Plaza, Crystal City and on to Quantico. The use of existing rail for commuter service has been the subject of extensive study and has been proposed by consultants, agencies, and commissions. Some commitment and political effort has been made by Montgomery County in FY73 to upgrade the present service. In addition, D.C. and WMATA are cooperating in a program to dis-

tribute commuter rail passengers using some of the *Downtown*er midi-buses.

Potential volume patronage in Montgomery County is primarily from the Rockville-Gaithersburg area . . . which could be served until Metro becomes a reality.

ISSUE

► 3. *If we attempt to utilize the existing rail right-of-way for commuter service:*

- a. *How much money, what type and what level of subsidy will it take?*
- b. *Who should operate the system?*
- c. *How and where should it interface with Metro?*
- d. *What should the zoning policies be around the suburban commuter stations?*

Bikeways & Walkways

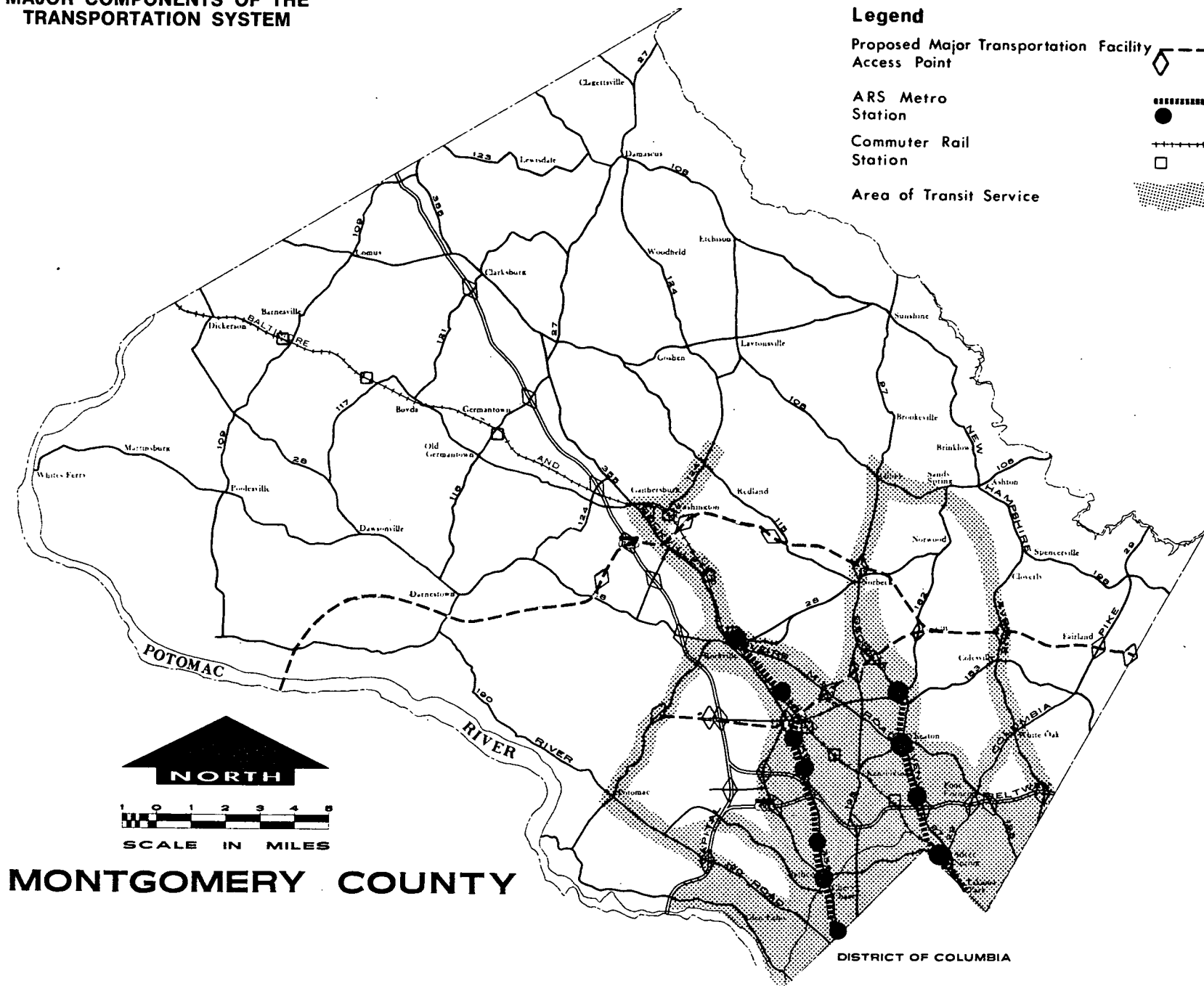
FINDING V — Community transportation, although presently dominated by the automobile, must begin to serve the ever increasing numbers of bicyclists and pedestrians.

While these would be easiest to provide in new developments, there is sufficient support to begin implementing these improvements in our developed areas.

Last year 10 million automobiles were sold in the U.S. At the same time over 14 million bicycles, half of which were adult size, became part of the over 80 million bicycle population. (200,000 in the County) Although polls and trends indicate a desire on the part of the public for bicycling, present urban design features thwart effective usage. There is an obvious lack of bicycle and pedestrian pathways, dangerous conditions of street and sidewalk access, and non-existent fa-



MAJOR COMPONENTS OF THE TRANSPORTATION SYSTEM



cilities for safe parking in either employment or shopping areas.

The following urban design features would by their very presence encourage and permit many people to use them:

- a County-wide network of bikeways linking residential areas with schools, libraries, recreation centers, parks, and employment and commercial centers.
- increased installation of intersection walk lights.
- pedestrian bridges or tunnels in dangerous areas.
- intersection curb cuts or ramps.
- bicycle parking facilities.
- improved sidewalks designed for dual usage.

These non-polluting, humane means of transport have generally been neglected by transportation planners.

While pedestrians and bicycles are not expected to play a predominant role in our County's transportation network, implementation of additional facilities would allow people a freedom of transportation choice unknown today and make possible a more enjoyable lifestyle.

To say that our transportation system could not be modified to provide these things, suggests that we have misplaced our priorities somewhere along the way.

ISSUES

► 4. *Should we begin to implement a County-wide network of bikeways linking residential areas with schools and other public facilities,*

employment and commercial centers, and what priorities should predominate?

► 5. *Should sidewalks and other pedestrian amenities be added throughout our County?*

CONCLUSION

Since the coming together of the Transportation Panel in September of 1973, there has been the growing realization that transportation is an integral part of present and future planning. A transportation system must serve people and move goods while enabling the desired choices of different modes of travel. The increasing trend of smaller households linked with the current energy crisis presents us with the opportunity to respond to changing lifestyles. Yet at the same time the problem of how we get from where we are to where we need to be presents a daily challenge.

The Transportation Panel believes that with creative, coordinated, and concerted effort our problems are manageable both now and in the future. In this period of likely changes in the life style of urban and suburban living under which we have existed for the past 30 years, there is an opportunity to do more than fit a transportation system to existing and projected landuse. There is the chance, through education and incentives, to create modifications in life style that will result in the satisfaction of the basic needs of the population for mobility and yet provide a more pleasant way of life.

The foregoing paper has established findings and raised issues so that through the process of open public debate we can move to the next

order of business . . . recommending policy which can bring about action and implementation of definitive proposals.

GLOSSARY OF TERMS

1. **Land use:** the type of development on the land, e.g., residential, commercial, industrial, recreational, educational, park land, etc.
2. **Arterial:** a major thoroughfare connecting residential streets or collectors to freeways, CBDs, satellite communities and major shopping areas, e.g., Georgia Ave., Wisconsin, etc.
3. **Balanced transportation system:** in the past meant having the option to use public transit in select corridors — in the future may mean a real choice of transportation modes to and from anywhere.
4. **TSA's & CBDs:** Transit Station Areas and Central Business Districts, often used together because of traffic generating characteristics.
5. **Modal-Split:** The percentage of work trips made by transit as opposed to other modes of transportation.
6. **Commuter Rail:** a high-speed radial rail service which serves only those areas in a 10-40 mile range from the central or core area of a large city. Train headway is on the order of 10 minutes or more and fares or tickets are usually collected on board. Power may be provided by locomotives or self-powered cars through overhead catenary, third rail, or internal combustion engines.
7. **Urban Ring:** A geographic area in Montgomery County of urban and suburban development. See Map, "Major Transportation Corridors."



Environment Panel

Panel Members

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Thomas M. Anderson, Jr.,
Commissioner
Herbert Fockler
Linda Fohs
Scott Fosler
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Introduction

The Environment Panel of the County Growth Advisory Committee concerned itself primarily with the impact of the physical elements of the County on growth and, conversely, the effect of growth on physical elements of the County. The notable exception is highway and mass transit locations and other aspects of the physical transportation network which were left to the Transportation Panel.

Early in the deliberations of the Panel, after hearing what people said at the public forums in October and meeting with some experts in the field of environment, we identified a series of specific elements that we wanted to address. These were modified as deliberations went on and ultimately appear here as water supply and sewage treatment; water quality and storm water management; air quality and noise control; natural resources; manmade resources, such as historic elements, rights-of-way, and open space considerations; and solid waste management. In the pages that follow, each of these concerns is addressed separately.

Our interest, like that of the other panels at this stage, is to generate discussion by residents of the County and feedback to the Panel concerning these aspects of County growth.

We have attempted to identify a series of "findings" which to us are specific facts or clearly definable opinions concerning one or the other of the elements with which we are dealing. We have attempted to document those findings so that their meaning is clear and the basis for the finding by the Panel is evident.

Ensuing from any given finding are a number of questions, a number of directions that County action might take in light of a specific finding. These are tabulated after the findings with, we trust, sufficient material in the background to make clear what is being said.

It is our hope that neither the findings nor the observations suggest specific conclusions. We have attempted so far as we are able to tabulate all of the observations fairly and completely and with an equality which does not suggest an answer or a clearly or firmly held opinion of the Panel. While it is probable that in some cases the panel might well reach a consensus in favor of one or another approach or in opposition to one or another approach, it has not been our intent to reach that consensus or in any way to allow that consensus to permeate the report we have prepared.

We want to make it very clear that there is not a pride of authorship by the Panel. We welcome comments, observations, reactions, support, opposition, further elaboration, and expansion on all that is here. Clearly, priorities of concern might be supported or commented to and most definitely we would look for opinions, support, and opposition to the various observations, reactions, and approaches which we have tabulated as ensuing from any particular set of findings.

In sum, we consider all that we have written fair game to any who will honor the work that we have done thus far by commenting to it.

Environment Panel

WATER



WATER

This section deals with all the water related environmental concerns. Although this section is divided into four major headings, we are dealing with an interrelated water resources system. The Water Supply section deals with the problems of determining how the residents of the Washington metropolitan area will be provided with adequate supplies of drinking water. While major interest may be focused on water supply sources, discussion of the water distribution system is also appropriate.

The Sewerage discussion focuses on the means by which sewerage service is provided, as well as alternative technologies for sewage treatment. Issues raised in this section deal particularly with

the means by which sewerage service mechanisms may be designed to conform to County Growth Policy.

The emphasis of the Water Quality section is upon the problems leading to pollution in Montgomery County streams as well as in the Potomac River and estuary. The issues should lead to a discussion on the relative importance of various water quality problems as well as the effectiveness of various measures for minimizing those problems.

The Storm Water section deals with concerns associated with flooding as well as the role of storm water in our total water resource system. The issues involve the actions that should be taken to deal with storm water as urbanization continues.

WATER SUPPLY

Findings

FINDING I — With the present water supply system, the available water during low flows of the Potomac River is less than maximum demand.

FINDING II — The total water resource is adequate in the Washington metropolitan area provided certain measures are taken, such as improving distribution systems, increasing storage capacity, and developing techniques for reducing demand.

FINDING III — The water supply in the Washington metropolitan area is managed by three autonomous agencies.

FINDING IV — Federal and State regulations will seriously affect County regulation of water supply.

Much effort has gone into planning of water supply for the Washington metropolitan area ever since the city was founded. As early as 1798, George Washington said, "The water supply of the Potomac may, and will be, brought from above the Great Falls into the Federal City, which would, in future, afford an ample supply of this object." This region, which encompasses an area of about 3,000 square miles, includes the District of Columbia and adjacent counties in Maryland and Virginia, has been and is dependent on the Potomac River as its major water supply source.

In the opinion of some, the greater Washington metropolitan area is faced with potentially severe water resources crises which may have grave consequences if no viable means are found in the near future to meet the growing demand on an already limited water supply system. The daily flow of the Potomac is subject to extreme variation with the average discharge of the Potomac

at Washington, D.C. being in the vicinity of 7,000 million gallons per day (mgd). However, on September 10, 1966, the flow in the Potomac dropped to a low of 388 mgd, which is almost equal to or less than metropolitan area demand. So far we have been fortunate that the high demand and the low supply did not occur simultaneously.

About 95 percent of the metropolitan population with public water supply are served with three systems governed by:

- 1) Washington Suburban Sanitary Commission (WSSC)
- 2) Fairfax County Water Authority

- 3) Washington Aqueduct Division of the U. S. Army Corps of Engineers

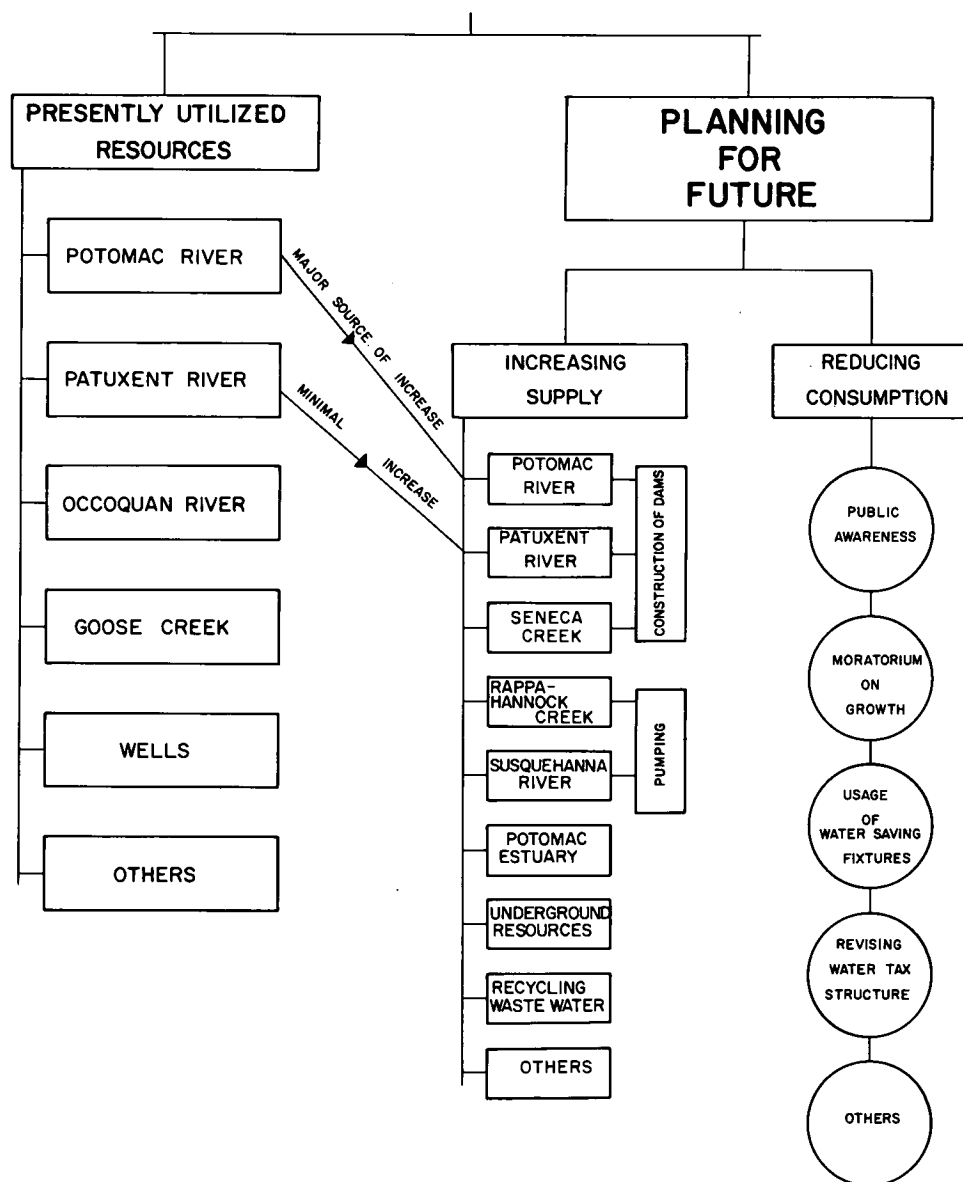
There is no substantial finished water storage capacity available at present. The total storage capacity in the separate systems amounts to only one day's supply. What makes the problem even worse is that these three systems are interconnected to only a minor extent. Then there is an urgent need to improve our existing water supply system both in terms of quantity and reliability.

The Potomac River and its water resources has been subject to many deliberations. Originally, 16 major dams were proposed within the basin. However, in 1968 a joint task force appointed by

BASIC FACTS ON THE THREE WATER SYSTEMS

ITEMS	WSSC	F.C.W.A.	W.A. (Corps of Eng.)
(a) Area Served	Montgomery & Prince George's Counties	Fairfax County	District of Columbia Arlington, Va. Falls Church, Va. National Airport Pentagon Andrews Air Force Base
(b) Number of People Served	1.2 Million	½ Million	1.2 Million
(c) Source of Raw Water	75% Potomac 25% Patuxent	92% Occoquan 8% Goose Creek, Wells, Washington Aqueduct	100% Potomac
(d) Raw Water Storage Capacity	Excellent 100 Day (Patuxent)	Excellent over 100 days	None
(e) Finished Water Storage	None	None	Less than one day supply

WATER RESOURCES FOR GREATER WASHINGTON METROPOLITAN REGION



President Johnson scaled down the total scope to six dams in addition to one under construction at Bloomington. This is the broad based regional approach which has been accepted as one of the many solutions by most of the concerned agencies.

Thus, at present, this County is more or less dependent on the Federal authorization and participation in the development and construction of dams on the Potomac. Even if the authorization were received for the construction of these dams it takes from 10 to 15 years to make a project operational from the date of authorization.

The further development of the Seneca Creek basin for water supply purposes was found to be economically unjustifiable. The U. S. Army Corps of Engineers has looked into the possibility of transporting water from the Susquehanna and Rappahannock River Basins. These plans, though technically feasible, may create interstate ecological, economic and political problems. Thus, so far, no serious consideration has been given to the Corps' suggestion, especially when adequate resources are available in the Potomac River Basin.

The use of water from the Potomac Estuary has been a subject of controversy for some time. Although a large amount of water is available from this source as a supplemental resource, the quality of water is questionable. According to a study prepared by Hydrosience, Inc., the use of estuary water is only feasible if a high degree of advance wastewater treatment from Blue Plains is maintained and only if it is blended with adequate fresh water coming down the Potomac to keep the concentration of dissolved solids, chlorides, and various bacteria and viruses within permissible limits. At present the Environmental Protection Agency is conducting a study to evaluate the

effects of chlorination on enteric viruses. Other types of treatments should also be considered, such as the Ozone methods. Congress has recently approved a study of the use of the estuary for water supply.

Two ground water aquifers (water bearing rock formations) in Maryland, close to Washington, the Patuxent and Patapsco-Puritan, could yield up to 115 mgd from wells. It may be worthwhile to further investigate these groundwater resources as a supplement to surface water resources.

The present system has no off stream storage facilities (reservoirs) connected for diverting waters from the Potomac at high flow. This kind of storage has been very successfully used in many states and its merit in Montgomery County could be evaluated. If found feasible this project could provide a storage capacity ranging from one to two weeks' supply.

ISSUES

► 1. *Who should be responsible for the supplying of water for the various jurisdictions in the Washington metropolitan area?*

► 2. *What level of security of water supply is desirable; and what emergency measures should be planned?*

► 3. *Which of the many alternatives to assure availability of water when needed should be implemented?*

► 4. *Should local authorities develop permanent and emergency solutions for water supply?*

► 5. *Are County policies for the location and timing of development supported by the:*

—*service area designations for the Ten Year Water and Sewerage Plan and the facility schedule for the Six Year Capital Improvements Program;*

—*regulations and procedures for obtaining water service; and,*

—*the system of pricing and paying for water system service and benefits?*

► 6. *Is it appropriate to use system capacity limitations as one means of implementing a county growth policy?*

SEWERAGE SYSTEM

Findings

FINDING I — Various locations in the sewerage system are currently operating at or above capacity limits, with similar conditions expected at other locations as authorized connections to the system occur.

FINDING II — A major factor in the ability to develop land for urban uses is the ability to obtain sewerage.

FINDING III — The components of a sewerage system are designed to have capacity limitations.

FINDING IV — There are a variety of existing and proposed alternatives for providing sewage treatment.

Sewerage System Capacity Problems

The current "sewerage crisis" has been with us for several years. The following discussion outlines the current (December, 1973) set of problems which characterize the crisis. A change in status of any part of the sewerage system or in policies and regulations for dealing with the crisis would change the definition of the problem, as has occurred in the past. More detailed information is available in:

- Montgomery County Council Resolution No. 7-1539, concerning the Interim Sewerage Program adopted December 11, 1973; and,
- Chapter IV of the FY's 1974-1983 Ten Year Water and Sewerage Plan for Montgomery County.

Three terms are often used to identify the basic types of legal commitment for permission to use the sewerage system. The terms are defined as follows:

An *authorization* applies to construction of a new sewerage line in order to extend the existing system to reach the site to be developed. An authorization implies subsequent approvals for a connection and a hookup.

A *connection* involves approval to build a connecting sewer from the main line in the street to the edge of the property line.

A *hookup* applies to the final construction of a pipe between the building and the connection sewer at the edge of the property.

Also, the phrase "sewer use commitment" appears in the following discussion. As used in this report, the phrase is meant to incorporate the various types of legal commitments which must be obtained before a party may have access to and use of the sewerage system.

The following capacity problems may be identified:

1. Blue Plains Sewage Treatment Plant—Future flows from outstanding sewer use commitments would exceed the WSSC *Interim Chemical Agreement* capacity of 144.6 million gallons per day (mgd). The current plan to defer some existing commitments, divert flows to other WSSC treatment plants, and reserve capacity in planned interim treatment plants may keep WSSC flows below that limit until the Blue Plains expansion is

complete and an ultimate limit of 155 mgd is established.

2. Seneca Creek Basin—Normal Seneca flows are being pumped into the nearly overloaded Rock Creek sewer, with peak storm flows being diverted to the Dulles Interceptor. A sewer use commitment ban is in force based on capacity problems at Blue Plains. If all sewer use commitments were fulfilled, the Seneca sewage pumping station would be operating at a peak flow rate which would be 98% of capacity. New development is dependent on use of the proposed public interim treatment plant program.

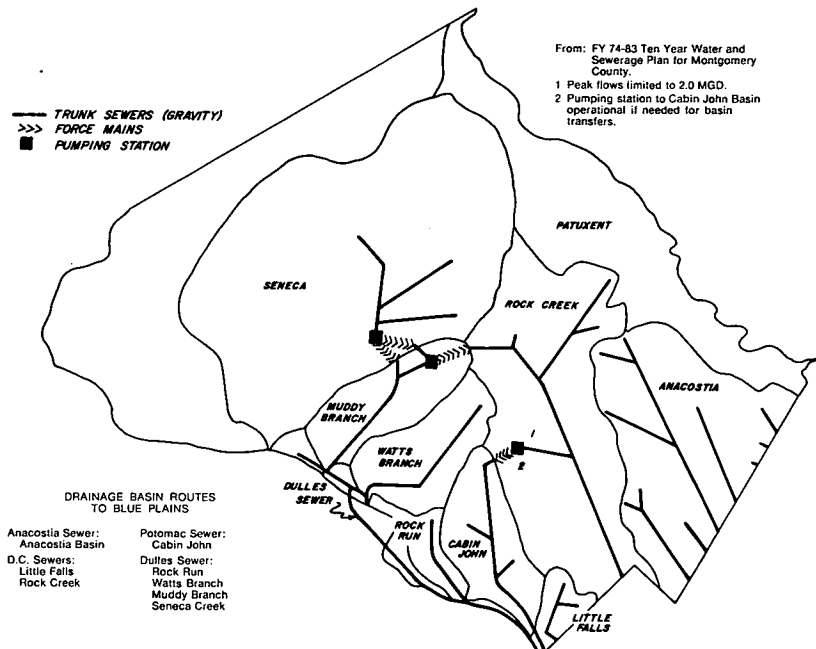
3. Muddy Basin—A ban on new sewer use commitments is in force based upon capacity problems at Blue Plains. Fulfillment of existing commitments in the Muddy Basin will bring peak flows to 94% of capacity of the Muddy Branch system. New commitments are dependent upon service from the public interim treatment plant program.

4. Dulles Interceptor—Flows from existing sewer use commitments would be in excess of average flow agreements with D.C. Resolution of problems in the Seneca Basin, Cabin John, and Rock Creek are dependent upon renegotiations to allow greater use of the Dulles Interceptor.

5. Watts Branch and Rock Run—There are no apparent transmission system problems. A ban on new sewer use commitments is in force based on capacity problems at Blue Plains. New sewer use commitments are dependent upon the public interim treatment plant program.

6. Cabin John Creek—Daily raw sewage overflows are occurring in Cabin John Creek. Connection of a replacement sewer to the Maryland Potomac Interceptor is expected to relieve all but occasional overflows. Elimination of overflows is

MONTGOMERY COUNTY SEWAGE CONVEYANCE SYSTEM TRIBUTARY TO BLUE PLAINS



dependent upon a further connection of the Cabin John sewer to the Dulles Interceptor, requiring a new agreement with D.C. as previously mentioned. No new sewer hookups are being permitted for structures which were not under construction on September 13, 1973. Upon resolution of the overflow problems, new sewer use commitments will be dependent upon use of the public interim treatment plant program.

7. Little Falls—There is potential for peak period overflows in this system. Relief lines are to be designed and constructed when plans for central business districts feeding into the basin are completed. No new building permits are being issued in the basin as of September 13, 1973. Upon resolution of the potential overflow problems, new sewer use commitments will be de-

pendent upon use of the public interim treatment plant program.

8. Rock Creek—Existing peak flows are currently at 91% of capacity and expected peak flows from sewer use commitments are at 103% of capacity. This includes flows pumped from the Seneca Basin via the Muddy Branch sewage pumping station. Relief of the near capacity conditions in Rock Creek appears to be dependent upon eliminating the diverting of Seneca flows into Rock Creek. If this current diversion can be eliminated, then new sewer commitments could be dependent upon the public interim treatment plant program. Completion of the Rock Creek relief sewer, pending the results of the Advance Waste Treatment (AWT) Delivery System study, may also be necessary.

9. Anacostia Basin—Periodic overflows occur in the Anacostia system in Prince George's County. No new sewer hookups are to be permitted for structures not under construction as of September 13, 1973. A public interim treatment plant program is planned for the Anacostia to initially provide relief for the overflow condition. A temporary relief of the overflow condition may be affected by construction of a holding basin designed to contain peak period overflows. Permanent relief is dependent upon construction of a major relief sewer which will take all flows to Blue Plains. A policy for possible service to new commitments through the public interim treatment plant program will be established when it is determined that the Anacostia overflows have been contained within the sewerage transmission system.

Sewerage System Use Policies

Because of capacity limits in the sewerage system appropriate governing bodies have established regulations which limit the use of the system as follows:

1. New construction ban—No new sewer hookups are permitted for structures not under construction on September 13, 1973, in those basins currently experiencing overflows. (Includes Cabin John and Anacostia Basins.)

2. Building permit ban—No new sewer hookups for structures not having building permits as of September 13, 1973, in basins having potential overflow problems. (Includes Little Falls and possibly Rock Creek.)

3. Sewer commitment ban—No new authorizations, connections, and/or hookup commitments after August 16, 1973, in all basins tributary to Blue Plains. (Includes Seneca, Muddy, Watts, Rock Run, Rock Creek, and other basins as transmis-



sion problems are resolved.) Exceptions to the above policies are provided for septic tank failures, public service buildings, and some other applicants up to 2,500 gallons per day.

When flow capacity conditions change in any part of the sewerage transmission system, appropriate policies will be applied as follows:

a. A building permit ban will be applied when committed peak flows are calculated to reach 92% of sewer design capacity.

b. If calculated peak flows reach 92% of sewer design capacity, a new construction ban will be applied.

Public Interim Treatment Plant Program

A 5 mgd public interim treatment plant pro-

gram is planned for 1975 to serve the Seneca, Muddy Branch, Watts Branch, Rock Run, and Rock Creek basins. The proposed capacity allocation is as follows:

1. 20% for relief of Blue Plains.
 2. 5% for public health problems and public facilities.
 3. 25% for low and moderate income housing.
 4. 25% for other residential projects in conformance with MPDU legislation.
 5. 15% for commercial and industrial development.
 6. 10% for small volume builders and individually owned single family dwelling units.
- Up to a 4 mgd treatment plant will be con-

structed in the Anacostia Basin by 1975 to initially relieve overflows by 100 percent, with a sewer service policy to be derived after it has been determined that the overflows are contained.

A major purpose of the Interim Sewerage Program is to alleviate overflow conditions at Blue Plains and to eliminate overflows and potential overflows in the sewerage transmission system. Another purpose of the Interim Sewerage Program has been to insure that a normal development process may continue until transmission system problems are resolved and until sewage treatment capacity is provided, primarily through the availability of the Montgomery County Regional Treatment Plant now scheduled to be available in 1978.

Consideration has been given to other means of providing sewerage service for development purposes, prior to 1978. A proposal for giving development credits to property owners who install water saving devices on existing structures has been made. Permission for developers to use septic tanks in areas which normally have access to the sewerage system is being considered. And a number of developers have proposed the private construction of sewage treatment plants which would be publicly maintained to serve future development.

Programmed System Capacity

If all vacant land in Montgomery County which has a sewer line serving it were developed according to existing Master Plans, it has been estimated that 835,000 people could be accommodated. Thus, sewerred vacant land in the County is now sufficient for 20 years growth. The total design capacity of the existing sewer lines and those proposed by the Six Year Capital Improvements Program calls for construction of sewer

lines which could service a population of 1,700,000 people. Ultimate carrying capacity of the County is reckoned under present Master Plans at:

Present population	580,000
Capacity of vacant land	835,000
	<hr/> 1,415,000

The Montgomery County regional sewage treatment plant is scheduled to handle in 1978 60 mgd
Of this capacity, initial flow to the plant is expected to be 28 mgd
Available for Montgomery County growth to 1991 32 mgd
Assuming 8,000 people generate 1 mgd 32 mgd x 8000 pop./1 mgd
by 1991, reckons to 256,000 people
Projected growth to 1983 167,000 people

Planning for Sewerage Services

As a result of Maryland State legislation, the Montgomery County Council is required each year to adopt a 10-year Water and Sewerage Plan. An important feature of the plan is the designation of specific areas of the County which are made eligible to receive sewerage services at designated times during the ten year period. Service area categories are as follows:

- I. Service approved by the County Council
 - A. Existing
 - B. Under construction
 - C. To be constructed
- II. Service proposed by the County Council
 - A. First two years
 - B. 3-6 years
 - C. 7-10 years
- III. Service not approved or proposed by the County Council. It should be noted that a

category III designation may be applied to an area regardless of the physical availability of service.

The adopted 10-year Plan then serves as a guide for the preparation and adoption of the 6-year Capital Improvements Program. The proposed timing of individual sewerage transmissiion system projects is to be in conformance with the service area designations of the 10-year plan. The program includes other projects necessary to maintaining sewerage service throughout the County. These projects include relief and replacement sewers, treatment plants for the public interim plant program, and the Montgomery County AWT treatment plant and delivery system.

Institutional Requirements for Sewerage Service

In order to actually construct a building ready for occupancy, a developer must obtain various kinds of governmental permission in a series of sequential steps. These are as follows: zoning, sewer availability report as part of preliminary plan application, preliminary subdivision plan approval (including a determination that public facilities are adequate), sewer commitment certification as part of record plat application, subdivision record plat approval, site plan approval if required by zoning classification, sewer connection certification if located on an existing sewer, building permit, and occupancy permit. Approval of each step is conditioned on prior approval of the preceding steps.

The WSSC employs three basic kinds of commitments for sewerage service, depending on the location and situation of the site with respect to the existing sewerage system. Builders are required to provide a time schedule for utilizing the connections and hookups; however, authorizations are often extended when the holder can

show cause for inability to meet the agreed upon building schedule. Use of connections and/or hookups is directly tied to a six month time limit to completion of the first footings inspection after the building permit is issued.

In summary, the service commitment by an authorization is often associated with longer lead times and extension of sewerage service into new areas. However, connections and hookups are typically associated with shorter lead times and construction in areas which already have sewerage service.

Pricing of Sewerage Services

Another aspect of the receipt of sewerage services is the way in which those services are paid for by those who benefit from their provision. It is possible that WSSC policies for pricing extensions of service could be adjusted to encourage growth where and when it is desired as determined by the county growth policy. Current WSSC pricing approaches are outlined as follows:

1. Benefit assessments

- based on actual cost per foot as averaged for the previous year's construction. An alternative approach would be to use actual project cost to reflect the scope of the facility required to serve benefiting parties.

- scaled down for long frontages with no assessment against agricultural property. Alternative approaches include use of a uniform assessment per front foot to reflect the equality of access to a sewer line and application of assessments on an acreage basis to reflect a benefit of general access to the sewerage system.

2. Connection fees

- a uniform fee is applied to single family users with other appropriate fees applied to other classes of users. An alternative would be to vary fees according to residential density level to reflect possible variations in expected water use.

- slightly higher sub-district fees are applied in Damascus and the upper Montgomery County basins of Rock Run, Watts Branch, Muddy Branch, and Seneca. In addition, higher surcharges could be applied to new service areas and low priority development areas which impose higher costs on the sewerage system.

3. User charges

- applied uniformly per thousand gallons of water use. Alternatively, charges could be differentiated to reflect different cost of serving developed areas, priority development areas, and low priority development areas.

4. Deficit payment (contributions)

- payments required when expected revenues will be inadequate to pay for the system extension. (No formula has been established for calculating the payment amount.) As an alternative, developers could pay for the full cost of an extension, and then be reimbursed by others who connect and pay for their share of the extended line.

Since application of these alternatives could add to the complexity of administering the revenue generating aspects of Sanitary Commission operations, these measures should be carefully evaluated to determine if they would actually have the intended impacts on the location deci-

sions of developers and purchasers of homes within Montgomery County.

System Capacity Planning

Discussion of sewerage systems capacities involves the use of the terms "average flows" and "peak flows."

The meaning of the figures which are applied to these terms varies with the method of calculation and whether the term is applied to monitored flows in the existing system or projected future flows. Average flows refer to the amount of flow which normally occurs (say with a 12 month average) or will occur in one day. Peak flows refer to maximum flows which would be expected as a result of variation in daily flows as well as areaway and infiltration flows occurring during the heaviest rain expected during a ten year period.

Although sewer lines, pumping stations and treatment plants must be hydraulically designed to handle the anticipated peak flows, the average flow calculation is commonly used for general planning purposes.

The new Montgomery County sewage treatment plant is being designed to accommodate an average flow of about 60 million gallons per day (mgd). The facility is designed to serve the flows which are projected to occur for a 15 year period. Sewer lines are currently being planned to accommodate the population capacity, in most cases expected to occur beyond the year 2000.

Planning Time Horizon

There are a number of factors which must be considered in establishing the appropriate design period for the various elements of a sewerage system. Without prejudging their significance, one should consider the following factors:

- Necessary lead time for planning, approval and construction of the facility.
- Relation of bonding period and interest rates to the facility design period.
- Engineering life of a sewer line.
- Potential disruption of communities, the environment and park systems during construction.
- Risk of recurring sewage overflow and overload situations or intermittent limits on growth as design capacities are approached, and
- Maintenance of system flexibility to allow for introduction of alternative and new technologies associated with sewage transmission and treatment.

Sewage Flow Projection Techniques

Projection of future sewage flows is dependent on assumptions concerning future population and land use, future flows generated by residential users and other land use classes, and future characteristics of the sewerage system related to flows not directly attributable to water users.

Ten year population projections are prepared on an annual basis. Projections for 1990 and the year 2000 are included in the General Plan and ultimate population capacity figures have all been prepared and made available for sewerage system planning. The most recent population capacity calculation of 1.4 million is considered to accurately reflect expected ultimate development conditions.

Assumed flows from projected populations has been typically tied to a figure of 500 gallons per day for a single family dwelling unit and 333 gallons per day per unit for multi-family dwelling units. Our changing technology and water use

habits suggest that these assumptions may not be appropriate for long range projections needed to design facilities. Making flow computations from other classes of users is even more complex. Once a good methodology is applied to population projections and flow assumptions, appropriate factors may be applied to reflect a reasonable margin of error which is expected in any future projection.

Alternative Sewage Treatment System

(a) *Physical-Chemical (AWT) Treatment*

Physical-chemical sewage treatment processes provide better biological oxygen demand (BOD) removal than normally provided by biological treatment. The proposed Montgomery County AWT system utilizes biological processes in series with physical-chemical processes. The use of advanced technology, including large volumes of chemicals has been questioned by some experts in the field of sanitary engineering.

The proposed location of Montgomery County's AWT at Dickerson, in the western part of the County, has also raised important land use questions. Some have asserted that the mere presence of a raw sewage force main crossing wedge areas of the County will create pressure for development at some future date and that the General Plan will be violated. However, a number of existing and proposed means of limiting access to the line will be used to prevent use of the line for development purposes.

(b) *Land Treatment*

Land treatment has been very successful in Paris, Berlin, Melbourne, and in the Southwest United States. The system involves the discharge of sewage upon the surface of the ground. A part of the sewage evaporates, nitrogen fertilizer is applied to the soil, and the remainder percolates,

thus recharging the ground water. The ideal condition would be a sandy soil or a good slope and with good drainage.

The land treatment method was rejected by consultants to the County Council, who determined that land treatment would have to be applied to the thin, unsuitable soils in the western County.

However, some contend there are other portions of the wedge which would be suitable for land treatment. Use of the land treatment process is said to provide a means of protecting large acreages from development and would eliminate the need for a system to deliver sewage across the wedge to Dickerson.

ISSUES

- 1. *Are the current plans to stop and to prevent future sewerage system overloads adequate?*
- 2. *Will the elements of the Interim Sewerage Program be sufficient to allow development to conform to the county growth policy?*
- 3. *What controls or standards are desirable to make possible interim treatment plants and still provide adequate protection of the environment?*
- 4. *Are County policies for the location and timing of development supported by the:*
 - service area designations for the Ten Year Water and Sewerage Plan and the facility schedule for the Six Year Capital Improvements Program;
 - regulations and procedures for obtaining sewerage service; and,
 - the system of pricing and paying for sewerage system service and benefits?
- 5. *Is it appropriate to use system capacity limitations as one means of implementing a county growth policy?*

► 6. *What is the optimal time period for which to design sewerage facilities?*

► 7. *What opportunities would alternative AWT sites and alternative sewage treatment systems (such as physical-chemical treatment and land treatment) offer for achieving growth while maintaining or improving environmental quality?*

WATER QUALITY

Findings

FINDING I— *Water quality standards are currently being violated in certain receiving waters within Montgomery County and in the Potomac estuary.*

FINDING II— *Water quality in Montgomery County streams is affected by sewage treatment programs, agricultural activity, and storm water runoff in urbanized areas.*

FINDING III— *The completion of the proposed AWT regional treatment system will not solve all local and regional water quality problems.*

Existing Water Quality

The Montgomery County Department of Environmental Protection (DEP) maintains a comprehensive local water quality monitoring program. Additional monitoring of the County's receiving waters has been conducted by the Annapolis Field Office of the Environmental Protection Agency and by the Maryland Water Resources Administration. The local DEP program includes a routine monitoring of all sewage treatment plants discharging to receiving waters in the County and also includes filed measurements at 90 selected stream monitoring stations. Pollution parameters monitored include turbidity, coliform, pH level, temperature, dissolved oxygen, nitrate-nitrite, phosphate and BOD.

The monitoring data indicate that the water quality of many of the County's streams have been degraded by the development process. In the lower Potomac tributaries the Muddy Branch, Cabin John Creek, and Little Falls Branch are all affected by overflowing sewers or pumping stations. Reduction in Seneca Creek water quality results from high nutrient loading as a result of agricultural runoff and increased levels of sedimentation due to urban development.

Rock Creek, which is 75 per cent urbanized, continues to have problems of heavy sedimentation. Failing septic systems in the upper reaches of Northwest Branch and Paint Branch are resulting in a degradation of the Anacostia system water quality. Furthermore, sediment loadings are high along Northwest Branch.

Problems in the Potomac River include violation of Maryland State Bacteriological Standards, high nutrient loading, and high level sedimentation. Also, discharge of cooling water from the PEPCO electrical generating facility at Dickerson creates a warm water plume along the east bank of the Potomac River below Dickerson.

While there are plans to correct pollution emanating from specific sources such as sewer overflows, the non-point sources of pollution such as nutrient and sedimentation loading resulting from urban and agricultural runoff are more difficult to control. The Storm Water Management Study to be initiated in the near future for Montgomery County will investigate the problem of runoff and non-point sources of pollution, such as runoff from yards, septic fields, and parking lots. Streams draining young or partially urbanized watersheds can be improved and protected against further non-point pollution. However, streams draining mature urban areas will pose a problem for water quality improvement.

While local water quality problems of Montgomery County's receiving waters are of immediate concern to the local populace, it is important to view water quality problems from a regional perspective. Contaminants entering the local streams of the County flow into the Potomac River. The polluted loading generated by Montgomery County, together with other upstream sources, contributes to the serious deterioration of water quality currently found in the estuary. The Potomac Enforcement Conference in 1969 adopted standards for effluent of all sewage treatment plants discharging into the upper estuary, specifying 96% removal of BOD₅, 96% removal of phosphorus, and 85% removal of nitrogen. As the 1972 amendments to the Water Pollution Control Act have not included the concept of enforcement conferences, the former functions of the Potomac Enforcement Conference have been largely replaced by the newly formed Washington Area Interstate Water Resources Program. The adopted effluent standards are currently under review by the newly formed regional organization to insure that desired water quality standards are achieved.

Until the AWT is placed into operation, the County will have to rely on the construction of interim treatment plants to correct existing overloads and to provide additional capacity. The Council has approved the construction of publicly operated interim plants, provided approved treatment standards are maintained.

Future Water Quality

Historically, most of the sewage generated by the Washington metropolitan area has been treated at the Blue Plains facility located in the District of Columbia. Until 1970, it was planned that essentially all future sewage generated by



Montgomery County would be treated at Blue Plains. However, in 1970 the judgment was made to restrict the ultimate capacity at Blue Plains to 309 mgd. Jurisdictions within the metropolitan area were assigned interim and ultimate sewage flow limits to the metropolitan sewerage facility. For Montgomery County this necessitated plans for the construction of a major AWT facility to serve the County. The Potomac Enforcement Conference developed high treatment requirements for all regional plants discharging effluents to tributaries of the Potomac River.

According to the Potomac-Metropolitan Area Basin Water Quality Management Plan, the AWT regional wastewater treatment system planned for Maryland, Virginia and the District of Columbia for the Potomac River will achieve a significant improvement to the water quality of the Basin. No problem is foreseen in achieving the pound loadings specified by the Potomac Enforcement

Conference for ultimate oxygen demand or phosphorus. However, nitrite and nitrate nitrogen removal is considered to be a major problem.

The Basin Plan indicates that the specified loading for nitrogen is impossible to achieve even with the application of the best available technology. Construction of the AWT regional wastewater treatment system will, however, significantly reduce nitrogen induced phytoplankton production. In the future, technological advances in the field of nitrogen removal may allow for additional water quality improvements.

A very important element to be concerned with nitrogen removal is cost effectiveness. Operating costs go up substantially with higher levels of nitrogen removal. A point may be reached, where the cost of additional nitrogen removal levels must be balanced against application of revenues to other public objectives. Consideration should be given to the appropri-

ateness of placing too much emphasis upon one water quality parameter. These problems of high costs and nitrogen loading could, of course, be eliminated by land treatment which uses the nitrogen in liquid-borne form as a fertilizer, at much lower operating costs than physical-chemical methods.

Significant amounts of nitrogen and other pollutants are found in storm water runoff. Very little quantification concerning the effects of storm water on the water quality of receiving waters has been made. However, it is estimated that during periods of heavy precipitation, the runoff from urbanized areas can equal or even exceed pollution generated by sewage within a given area. The nitrogen concentration found in urban runoff is especially high during periods of peak rainfall.

Sewage Discharges and Water Intakes

The metropolitan area is faced with a potentially serious water shortage in the future. The AWT plant planned for Montgomery County is expected to alleviate the potential water crisis by recycling treated effluent. The AWT effluent will be placed into the Potomac River in order to replenish the river's flow so that additional water will be available at the water intakes located downstream. Another water intake is planned to serve the city of Leesburg, Virginia. A study is currently underway concerning options for providing sewerage service to northern Fairfax County and for Loudoun County in Virginia. One option is expected to be construction of a sewage treatment plant, possibly to discharge into the Potomac above existing water intakes. However, sewage effluent can discharge significant virus concentrations into receiving waters unless adequate treatment is given.

Most epidemiologists do not believe that a community's sewage represents a significant threat for direct virus infection. While the effluent from a sewerage plant having even a high degree of treatment contains a potentially hazardous virus concentration, the probability that an individual will actually receive a viral dosage appears remote. Infection is likely only when an individual comes in direct contact with effluent before dilution occurs. As the effluent becomes more diluted, the possibility of water borne infection is less likely. It appears that direct person-to-person transmission is far more significant than infection from contaminated water.

However, this does not mean that a community should not be concerned about small concentrations of viruses appearing in drinking water. Even if a very few individuals are directly affected by drinking water where the virus concentration is low, this can give rise to carriers who then transmit the virus at high dosage levels by direct person-to-person transmission.

Chemicals found in drinking water also pose a potential health hazard. Commercial and industrial establishments and even homes discharge sizeable amounts of chemicals to the sewerage system. Where rivers such as the Potomac are used as both depositories of sewage and sources of potable water, there exists the possibility that trace toxic substances will appear in drinking water. Unfortunately, the significance of chemicals present in potable water is not well understood as little information is available concerning the health hazards of ingesting small concentrations of toxic materials.

ISSUES

► 1. *What is the significance of water quality violations? Is there any threat to the physical and*



psychological well-being of the community? What are the social benefits arising from improved water quality?

► 2. *Do current violations of water quality standards justify more restrictions on growth until "permanent" solutions are affected?*

► 3. *What problems are associated with nitrogen treatment? Is nitrogen a valid measure of carrying capacity of the Potomac Basin? What is the most cost-effective level of nitrogen treatment in terms of the overall environmental issue?*

► 4. *What is the degree to which water qual-*

ity can be a valid measure for carrying capacity? How will additional storm water runoff affect water quality and the quality of the environment for the future residents of Montgomery County?

► 5. *Does the potential conflict between the location of planned effluent discharges and water intake pose a serious "holding capacity" issue or would a sophisticated water management system be adequate to deal with the problem?*

► 6. *What impact do concentrations of viruses and other potentially dangerous matter found in wastewater have upon recycled drinking water?*



STORM WATER

Findings

FINDING I— Problems associated with flooding continue to increase as the County urbanizes.

FINDING II— Existing methods of evaluating storm water management are sufficiently well developed to form a basis for policy and regulatory procedures.

Storms are natural phenomena causing excessive amounts of precipitation. When the runoff exceeds the carrying capacity of storm water sewers, streams, and rivers, the adjacent lands are flooded. Major floods have occurred throughout Montgomery County and will continue to occur periodically in the future. As recently as June 1972, the County experienced flooding which caused estimated damages of \$5.8 million.

Storm water damages, however, are a result of man's development in the path of storm water. Historically, man has been attracted to streams and their adjacent flat and fertile lands for his

agricultural needs. With the passage of time, the value of the river as a supplier of power, as a means of transportation and a receptacle of human and industrial wastes, has attracted people to the development of flood prone areas. As a result of this, much suffering, both personal and financial, has been experienced. Some of the major factors that contribute to abuse of floodplains are:

FACTORS CONTRIBUTING TO IMPROPER FLOODPLAIN USE

- **IGNORANCE** of flood hazard!
- **"IT WON'T HAPPEN TO ME"** attitude!
- **ESTHETIC** attraction of locating near water!
- **OTHER** structures already situated on floodplain!
- **WILLINGNESS** to accept calculated risk!
- **FALSE** sense of security associated with upstream flood control measures!
- **ANTICIPATION** of future federal flood control measures!
- **PROFIT MOTIVATION** by calculating land speculator selling to unsuspecting buyer!
- **AVAILABILITY** of water, sewer, and other utilities situated in underdeveloped floodplain!

Montgomery County is one of the most populated, urbanized, and progressive counties in the nation. The rate of population and urban growth has been substantial in the last few years and there is every indication this trend will continue. According to recent population estimates Montgomery County is expected to grow from 522,809 in 1970 to 970,000 in the year 2000.

Urbanization significantly increases storm water related problems, namely:

- a. It increases the amount of flow by reducing infiltration.
- b. It increases the height and velocity of storm water flow thus increasing flood damages.
- c. It increases soil erosion, sedimentation, and water pollution.

To a layman the simplest solution would be the evacuation of storm water by means of ditches, gutters, sewers and natural channels. However, this only transfers the problem from upstream to downstream. Broadly speaking, storm water management is a complex problem and in order to maximize the benefits, it can best be solved using several methods. Each community, each stream, and each drainage basin has its own characteristics and thus multiple approaches are required to eliminate the total problem.

Historically, man has undertaken large-scale flood protective works like reservoirs, channel enlargements, channel improvements, floodwalls, dikes and levees to prevent or reduce the extent of flood damage. However, with the cost of protective measures increasing day by day, more attention is being paid to preventative measures, namely floodplain delineation, planning and zoning, and health regulations. In 1968, the National Flood Insurance Act came into existence which requires local and state governments to adopt ade-

quate land use regulations including zoning, subdivision, building, health and other ordinances in order to be eligible for assistance under this program.

The damage prevention chart lists the various techniques available for the reduction of storm water losses.

ISSUES

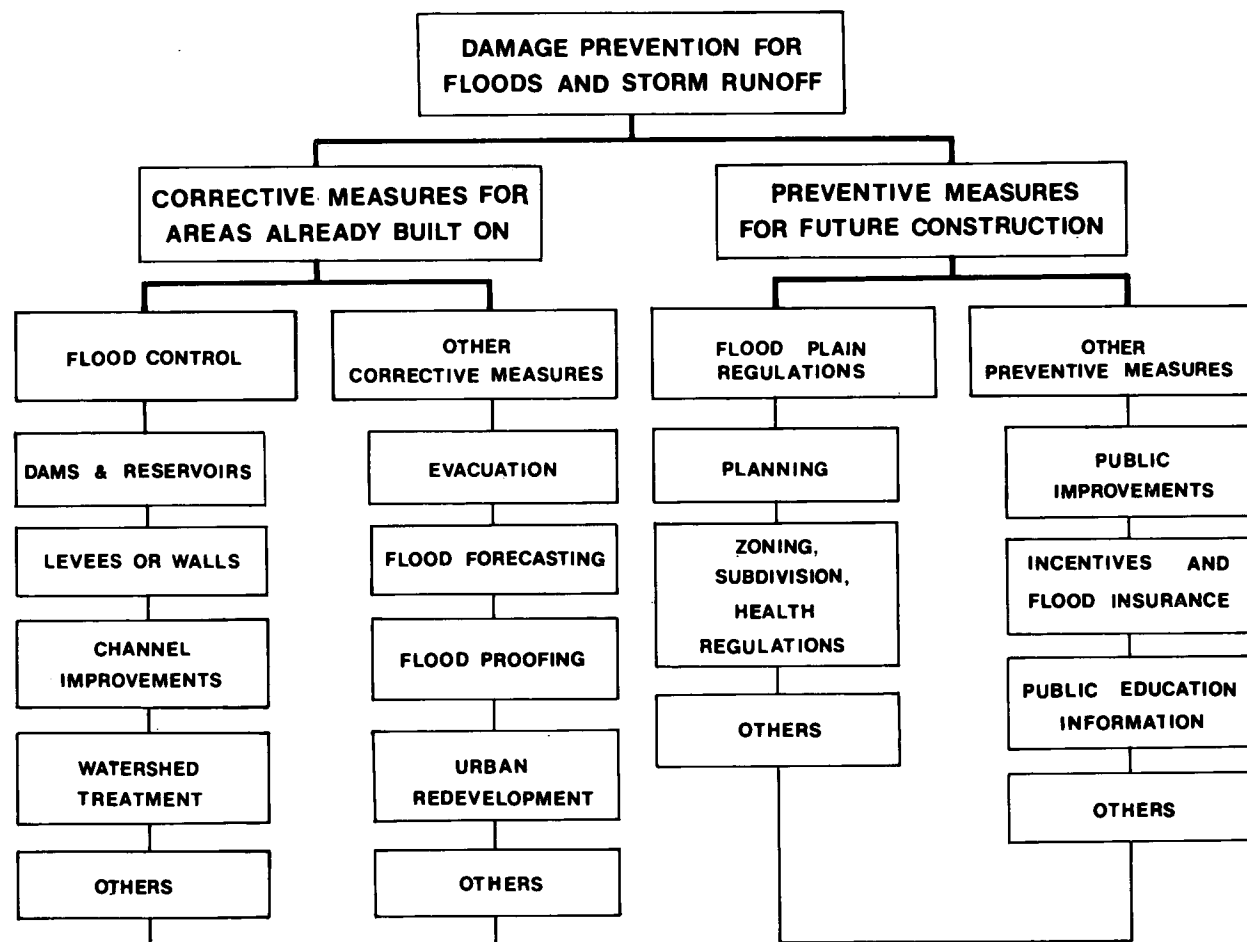
► 1. Should growth be limited to minimize increases in storm water runoff which result from development?

► 2. Are County residents willing to meet the revenue requirements of expensive measures to overcome flooding problems?

► 3. To what extent may storm water be viewed as a resource? (for water supply, recreational use or water quality management)

► 4. How should the responsibility for storm water management be divided between the private and public sectors?

► 5. How should the costs of storm water management be distributed?

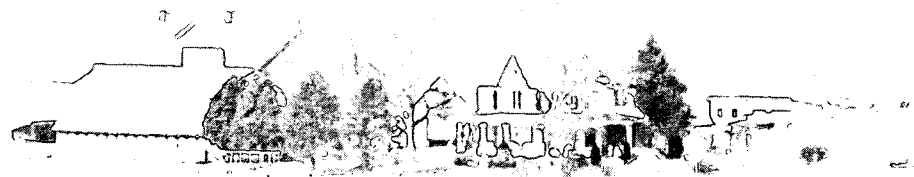


Environment Panel

AIR

AIR

Air quality and noise experienced wherever a person may be at any moment are pervasive elements of our environment. Air quality discussions must deal with existing and pending regulations to deal with air quality problems. The issues must address the ways in which air quality can be considered in the planning process. Although noise control legislation has not been developed to a comparable extent with air quality control, discussion similar to that suggested for air quality will be appropriate.



AIR QUALITY

Findings

FINDING I— Air quality is a matter concerning the health and economic well-being of the citizens of the County.

FINDING II— County regulation of air quality is going to be seriously affected by Federal and State regulations. Existing Federal laws and regulations address stationary, vehicular, and complex sources. Existing laws and regulations at the State and County level deal with stationary sources, and, in a limited fashion, with vehicular sources.

FINDING III— Air pollution in Montgomery County is due largely to vehicular sources.

FINDING IV— EPA regulations which require states to analyze potential air pollution problems resulting from future development may affect population and economic growth in Montgomery County.

FINDING V— Heretofore, our Master Plans have given little consideration to air quality problems.

The Montgomery County Air Pollution Control Section of the Department of Environmental Protection has identified seven categories of sources of air pollution in Montgomery County. These sources along with the percent of pollution they contribute is as follows:

Sources of Air Pollution in Montgomery County (1971)

Vehicles	78.0%
Electric Power Generation	19.0%
Space Heating	1.0%
Refuse Incineration	0.9%
Industrial Processes	0.3%
Other Mechanical Processes	0.7%
Miscellaneous	0.1%
TOTAL	100.0%

Five major air pollutants have been identified as follows:

Constituents of Air Pollution in Montgomery County (1971)

	(by weight)
Carbon Monoxide (CO)	65.0%
Sulfur Oxide (SO ₂)	15.0%
Hydrocarbons (HC)	10.0%
Oxides of Nitrogen (NO _x)	8.5%
Particulates (TSP)	1.5%
TOTAL	100.0%

Vehicular travel, as indicated, is the greatest single source of pollution. Vehicles are the major source of CO, NO_x, and HC and these three pollutants account for 83.5% of the County's pollution. HC released from vehicles during the morning commuting period combine with NO_x, also released from vehicles, and acted on by sunlight, causes the creation of photochemical smog by mid-day. Photochemical smog is the cause of air pollution alerts called by COG (Council of Governments).

Legislation/Regulation

State and local air pollution laws and regulations have historically imposed controls on stationary sources of air pollution. They have prescribed allowable levels of pollution emissions from stationary or point sources such as power plants, incinerators, etc. These regulations have also included controls on mobile sources by requiring that pollution control devices not be removed from autos, when required by federal law. State regulations also call for the restraint in excessive idling of motor vehicles.

The State of Maryland has divided the State into air quality control regions and has adopted ambient air quality standards for each region. The

State has also prepared and had approved by the Federal Environmental Protection Agency an Implementation Plan to achieve the Ambient Air Quality Standards.

Recently, the State, in response to Federal regulations has proposed regulations for the control of complex sources of air pollution, i.e., facilities that generate traffic which is a source of air pollution. The purpose of the complex source regulations is to maintain the Ambient Air Quality Standards once they have been attained through the Implementation Plan.

The State's proposal calls for State approval of any large-scale development (defined in detail in the regulations). This approval must be obtained from the State prior to construction.

ISSUES

- 1. At what stages in the planning and development process and in what specific manner should the impact on air quality be analyzed and considered?
- 2. How do we determine the weight to be given air pollution concerns in the planning process?
- 3. What are acceptable methods of reducing existing air pollution and of minimizing air pollution from future development?



NOISE CONTROL

Findings

FINDING I — Our knowledge of the effects of noise, its generation, and its control, is embryonic.

FINDING II — Noise affects County residents in a variety of ways, including ear damage and hearing loss.

FINDING III — Noise can be controlled by a variety of methods.

Noise affects Montgomery County residents in a variety of ways. Ear damage and subsequent loss of hearing may occur due to single exposure to excessive noise level or a sustained exposure to a lesser noise level. There are other effects related to noise that are termed interference factors: interference with sleep and communication, creation of annoyance for an individual or an entire

community, the undesired stimulation of bodily systems and distraction.

These effects are due to singular sources of noise that usually occur collectively. Noise can then be controlled two ways. One method would set allowable noise levels on individual sources such as radios, trucks, etc. A second method involves setting of overall or ambient allowable noise levels. Montgomery has proposed legislation which would, among other things, set ambient noise levels for various land use zones.

ISSUES

- 1. *Should noise levels be restricted by County regulations for various land use zones within the County?*
- 2. *What type of consideration should be given to noise in the planning process?*
- 3. *What role should the County play in developing data and standards concerning noise?*

Environment Panel

LAND



LAND

Environmental programs related to land are discussed in terms of Natural Resources, Man-made Resources, and Solid Waste.

Natural Resources includes Sites which represent unique natural features of the County. Furthermore, the interrelations of natural areas and the development process may be discussed in this context. There are also consumable natural resources in Montgomery County which should be considered in our growth policy evaluation.

Three types of Man-made Resources are discussed. The importance to the Montgomery County residents of protecting Historic and Cultural Features in the County needs to be explored. The existence of many Rights-of-Way

throughout Montgomery County may be a heretofore unrecognized resource which should be considered in our planning. Finally, the Open Space areas which are created through our planning and land development process need to be discussed.

Issues raised particularly concern our methods of open space planning as well as the responsibility for owning open space.

The third section under land deals with Solid Waste. The emphasis of the solid waste findings is upon the characteristics of solid waste systems as well as the potential for applying technological alternatives to disposal and recycling problems. The issues focus on the process of planning for solid waste management.

NATURAL RESOURCES — Land Use

Findings

FINDING I — Land use has not been adequately sensitive to environmental factors.

FINDING II — Land prices in the County are rising as the amount of undeveloped land decreases. Higher land prices contribute to increased prices for public open space, housing, and building space, and help to generate political pressure for increased densities.

Land is a finite resource. As the County has grown, the supply of land to serve future growth has diminished. Moreover, all land is not suitable for all types of development; some should not be developed at all or developed very little, due to geology, hydrology, topography, soils, and the plant and animal life it supports.

Yet, presently, land is viewed as a commodity to be bought and sold as a matter of right. The use of land may be regulated, but not denied. In some cases, this means that some lands which, for ecological, public health, or other public interest reasons ought not develop, can still be developed unless purchased by the government for some public purpose. By the same token, land which should be developed to serve public objectives, may be withheld or be undeveloped because of the wishes of its private owners, or because ownership is so fragmented that it cannot be efficiently developed.

Land values are determined by the market's estimate of its economic yield. Market value is influenced by such factors as existing or potential zoning; sewerability; location; the costs of assembly, money, and taxes; and the difficulties the land presents for the use envisioned by the

buyer due to its natural features. In general, as land prices rise, the new owners request higher densities of use and the prices of housing and non-residential building space increases. Land prices are also inflated by speculation in future profits. Speculation is fueled by high "odds" on obtaining higher densities and by systems which encourage not developing land until it is "ripe" for premium prices.

In general, current land use regulations establish densities, lot sizes, types of structures, and standards of height, bulk, setback, etc. Only a few zones (such as Town Sector, Planned Development, CBD, Transit Station Area) currently address environmental criteria for development. As a consequence, the costs of environmental impact are not usually calculated in land prices. If they were, these costs would in some cases affect the desirability of higher densities, and cause land prices to reflect more carefully a scale of development more compatible with the environment.

In assigning zoning categories and densities to land, there is also too little prior analysis of environmental values. This tends to encourage the overpricing and, subsequently, overbuilding of the land.

ISSUES

► 1. *What kind of changes are needed in land use controls to make them adequately sensitive to environmental factors?*

► 2. *To what extent should the impact of environmental controls on land prices be considered in imposing such controls?*

► 3. *How should we use our governmental powers (assessments, taxes, plans, regulations, etc.) to dampen speculative land price increases?*

NATURAL RESOURCES — Sites

Findings

FINDING I — There is a potential conflict between the conservation of natural resources and urbanization.

FINDING II — Several states, including Maryland, are evaluating legislation and mechanisms for protecting and preserving important and unique natural areas.

The recently published report of the nationwide Task Force on Land Use and Urban Growth (created by the Citizens' Advisory Committee on Environmental Quality and sponsored by the Rockefeller Brothers Fund) *The Use of Land: A Citizens' Policy Guide to Urban Growth*, gives much attention to the urgency of formulating policy and enacting legislation to enable the preservation of important natural areas such as rivers and streams, marshland, waterfronts, and unique ecosystems. Several states, for example, Florida, Vermont, Delaware, Colorado, and New York are attempting to create legislation and mechanisms for the protection and preservation of important natural sites and ecosystems.

The 1969 update to the General Plan included a careful analysis of the optimal utilization and conservation of the County's natural resources. The conservation goal as outlined in the 1969 update was to conserve valuable natural and historic areas for the benefit of present and future generations. Included under the conservation goal were seven objectives: (1) Protect stream valley corridors to reduce flooding, pollution, and sedimentation and to preserve ecological features; (2) Preserve unique and representative areas and other natural resources; (3) Preserve points of historic and scenic significance; (4) Provide for

the wise use of mineral resources in Montgomery County; (5) Reduce flooding and excessive runoff; (6) Protect conservation resources from destructive sedimentation and erosion; (7) Provide for development in urban and suburban areas that retains ecological features and is compatible with good conservation practices.

The future development of Montgomery County should be in concert with the physical environment of the area. In certain situations, development may be in conflict with either the physical capacities or the environmental well-being of the County or both. A determination should be made of the optimal utilization and conservation of the physical environmental resources of the County. Among the important natural resources to be considered in the planning process for Montgomery County are the streams and stream valley corridors as interrelated systems involving water supply, flood protection and ecological features; the preservation of historic and scenic areas; and the use of parks and open space as a means for soil and water conservation.

ISSUES

► 1. *Should Montgomery County take specific responsibility for identifying and preserving the*

important and unique natural areas of the County?

► 2. *What levels or standards should be set up to define an unique natural area?*

► 3. *To what extent should Montgomery County develop controls over natural resources?*

► 4. *What precautions should be taken to insure that urbanization does not conflict with the physical environment?*

► 5. *Should the availability of basic natural resources such as water, land, or air be used as a criterion for limiting growth in Montgomery County?*

NATURAL RESOURCES — Consumables

Findings

FINDING 1—*There are, within Montgomery County, consumable natural resources (e.g., gravel, lumber) which are currently unregulated, unprotected, and unidentified.*

There exists in Montgomery County a kind of natural resource which is of commercial value. These are such things as sand and gravel pits and commercially exploitable stands of lumber, which may be found on public or private property. Tra-

ditionally, such resources have been identified by private companies, exploited, and then abandoned. In due course, someone comes along, restructures the property, builds houses on it, or puts it to some other secondary use.

At the present time, in Montgomery County, there is no means of identifying, regulating, or protecting such resources. There are methods by which an early recognition of the resource, a determination of its value, and a reservation of the resource for the best possible future use could be made.

This could be by public acquisition of the land and the rights for use of the resource leased to private concerns, or prohibited completely so that the land is kept in its original state; or it might be accomplished by regulation. In any event, it could be done only after identification.

ISSUES

► 1. *Should Montgomery County take specific responsibility for identifying and controlling the use of consumable natural resources?*

► 2. *What regulatory measures and/or programs should be established to insure the protection of consumable natural resources?*

MAN-MADE RESOURCES—Design of the Man-made Environment

Findings

- FINDING I** — Visual harmony in development as a result of coordination in the use of building materials, colors, and other design considerations can result in attractive areas even though the areas are developed by many different owners.
- FINDING II** — People appreciate a well-designed environment as exemplified by Williamsburg or the Lake Anne Village complex in Reston.
- FINDING III** — Coordinated design of signs, newspaper stands, benches, and other street furniture can contribute to a pleasant visual effect.
- FINDING IV** — Landscaping in commercial areas, store parking lots, and other areas within the County can be regulated to promote aesthetically pleasing development.

It has been said that a city is its people and the same can be said about the County. Its appearance and development reflect the values and standards of its citizens. Currently, there is too little attention given to the visual appearance or design of our man-made environment. A building may be designed well, but when placed next to another building, how does it look? In themselves, a modern high rise steel and glass office building and an old colonial three story brick office building may be visually pleasing. However, when put together they clash. To achieve visual harmony, guidelines could be developed to insure visual harmony, not only of buildings, but signs, benches, landscaped areas, sidewalks, and other elements in our man-made environment.

Communities all around the country are regu-

lating the appearance of their man-made environment (e.g., Alexandria). They are responding to citizen values and higher standards for the appearance of their communities.

ISSUES

- 1. *Should Montgomery County develop guidelines to achieve better visual harmony of our man-made environment?*
- 2. *Should we require site plan review including visual appearance of the buildings, signs, landscaping, and other amenities of all commercial, office, industrial, and residential development?*
- 3. *Should we develop different appearance guidelines for different areas within the County which reflect their historic, ecological, or contemporary character?*

MAN-MADE RESOURCES—Historic and Cultural Elements

Findings

- FINDING I** — Montgomery County has many unique buildings and areas, some of which have existed for 200 years or more and some of which are unique as a result of usage or architectural style.
- FINDING II** — Historic buildings and areas are endangered by land use changes, which occur in the face of population growth. Historic buildings are often lost as a result of road widenings, abandonment, vandalism, fire, lack of identification, or by lack of interest on the part of the owners.
- FINDING III** — Failure to recognize the value of the historic and cultural elements for some future need endangers their preservation.

Again in *The Use of Land: a Citizens' Policy Guide to Urban Growth*, it is recommended that states and communities give careful attention to the identification and preservation of historic buildings, landmarks, and areas. The report recommends that states enact legislation that would establish a state structure and authority for review and regulation of historic sites and would enable local governments to protect the integrity of historic buildings and areas. Maryland has legislation to encourage and enable historic preservation, and has an agency, the Maryland Historical Trust, to assist local counties and communities. These programs are for sites of national and State significance.

Historic buildings and areas are highly vulnerable to destruction by urban growth since such buildings and areas often are located in the path of urban growth and therefore occupy valuable land. They are often threatened by road widenings, or are lost as a result of abandonment, vandalism, or fire. However, historic properties and areas can be an attractive feature of urban communities if such properties are properly preserved.

Montgomery County has historic buildings and communities, some of which have existed for 200-250 years or more. Fortunately most of Montgomery County's historic buildings and sites have not been destroyed, and can be preserved. The MNCPPC is now conducting a careful survey throughout the County which will produce a comprehensive inventory of historic buildings and sites. An expected 200-300 sites of local, State and national significance will be identified as being of primary interest.

The National Trust for historical preservation has formulated criteria for identifying sites of

historic significance and worthy of preservation. They may be buildings or sites, and may be divided into the following categories: buildings or sites representative of a period or style; architecturally important buildings; sites of important events or activities; sites associated with important personages; sites of historic cultural value; and archeological sites.

After sites have been identified and are judged worthy of preservation, there are several possible protection strategies and implementation measures that can be followed. The two major preservation methods are:

- (1) Acquisition which can be accomplished by:
 - Purchase by public agency,
 - Development rights to restrict alteration of the structure or area, or
 - Purchase and lease back to anyone willing to preserve the property.
- (2) Regulation which can be accomplished by:
 - Covenants for imposing architectural controls or alterations of the land,
 - Tax abatement, or exemptions, for those agreeing to certain controls.
 - Historic area zoning to prevent non-compatible construction of new structures, and
 - Subdivision regulations that would include required dedication of historic sites.

ISSUES

- 1. *Should Montgomery County have a strategy to preserve historic sites?*
- 2. *How shall the primary historic sites to be preserved be identified?*
- 3. *What regulatory measures and programs should be established to insure the protection of designated historic sites?*

MAN-MADE RESOURCES — Rights-of-Way

Findings

FINDING I — There are many existing rights-of-way in Montgomery County, including power transmission lines, interstate highways, dedicated roads, railroads, and natural gas lines.

FINDING II — Even with the rights-of-way existing in Montgomery County today, there will be a need for more in the future.

FINDING III — Typically, any kind of right-of-way does violence to the environment.

In Montgomery County, the various public agencies which establish rights-of-way have planned the course of such land corridors autonomously, without regard for any needs but their own. The location of such rights-of-way as highways, power lines, railroad tracks, and sewers is settled in particular locations for particular immediate reasons. These reasons may be a preference for a long, level stretch of land (railroads) or for the shortest, straightest route (power lines).

It is possible to anticipate the needs of the future in such matters and for the public to acquire a right-of-way large enough to serve a whole series of needs. The space would be leased to the agencies for their use. Any right-of-way does violence to the environment. One right-of-way does less violence to the environment than many.

ISSUES

- 1. *Should Montgomery County take specific measures to protect existing and future rights-of-way for planned public use?*

MAN-MADE RESOURCES — Open Space

Findings

FINDING I — Open space has many different characteristics and functions.

FINDING II — Much open space is a by-product of development and does not produce connected areas suitable for hiking, biking, and other integrated uses.

FINDING III — Current development policy encourages privately owned open space, restricted to owners of a particular project.

FINDING IV — Some open space is being acquired under a public land acquisition program.

Characteristics

Current County plans provide for large tracts of recreation area such as Little Bennett and Seneca Parks to be acquired by public purchase and development through the Capital Budgets of the County and State. Medium sized facilities are acquired, generally along with school sites by purchase or dedication in the development process. Small neighborhood parks and "tot" lots are acquired almost entirely by dedication. Incidental "open space"—landscaped areas of commercial centers, highway median strips, setbacks along roads, rear yards—are a function of design. Each area, by virtue of size and location, serves different segments of the population.

Present estimates of parkland and facility needs or demands are no more than educated guesses at this time, based on the patterns of use experienced by the existing park system. The potential park user who cannot relate to the present park system should be reached and his or her needs considered in formulating our future park system.



Interconnection

Much open space is connected to schools which are sited on major roads. Development plans often do not suggest connecting these areas to stream valley parks systems. While stream valley parks are a natural route for connecting systems, the width provided is often inadequate to protect the stream and still permit trails, especially paved trails.

Attempting to get open space under current procedures in designated locations or to prescribed widths will result in lower density use of the land, in turn requiring more acres of development for the same number of people. Additionally, unless the land is bought, development costs will be increased forcing housing costs higher.

Public Access

Planned development concepts were expected to provide incentives to developers to generate open space by clustering houses on smaller than normal individual lots. Savings were predicted in development costs which could provide funds for the improvement of the open space. Experience has shown that the savings have not materialized; and, in fact, cluster development, especially where it involves significant open space improvement costs, has led builders to hold the open space in private ownership. Moreover, because of expected maintenance problems, small areas have not been acceptable to the park authorities for public dedication.

Most recently, the need for multi-use open space for stream protection and water management as well as recreational use has encouraged private ownership.

Development Requirements

The use of development techniques which produce open space as a by-product is optional with each developer. Moreover, the option to develop or not, clearly rests with the land owner. Thus, the certainty of acquiring any particular open space is low. In many subdivisions there is no desirable open space land; in others there is a great deal.

Planning

The Maryland-National Capital Park and Planning Commission plans to sponsor a survey of County residents which will include factors relating to parkland and facility needs, demands and use and non-use.

After this survey is completed and its findings are evaluated, a new comprehensive plan for recreation and open space will be forthcoming.

ISSUES

- ▶ 1. *How should the County determine its open space needs and plan to satisfy them?*
- ▶ 2. *How should open space be obtained and at what rate?*
- ▶ 3. *Who should own and maintain the various elements of an open space system?*

MAN-MADE RESOURCES—Solid Waste

Findings

FINDING I — Growth has a direct effect on the amount and character of solid waste.

FINDING II — Recent research indicates that solid waste is a valuable resource. Metals, materials, and biological matter can be recycled for various uses.

FINDING III — 80-90 percent of the cost of operating a solid waste management system is tied up in collection.

FINDING IV — The magnitude and geographic distribution of residential and industrial growth can be expected to have a strong influence on the problems of solid waste collection and, therefore, on the operational cost of the entire management system.

FINDING V — If growth continues to occur as it has, it will become increasingly difficult to handle solid waste as it is now being done with sanitary landfilling and incineration because of objections to the impact on the community and environment. This suggests that techniques more sensitive to environmental and community concerns than traditional approaches should be carefully considered in the annual development of the County Ten Year Solid Waste Management Plan.

The problem of solid waste does not directly affect growth; but is a problem created by growth. It is a problem that will not go away, but will continue to generate daily. Thus, it is a matter that must be attended to and considered in future growth patterns.

Montgomery County is only one of hundreds of municipalities facing the problems of solid waste removal. After the 1971 Environmental Protection Act was passed, open dump burning prohibited the most common means of solving the problem. Incinerators were more closely inspected, safeguards ordered installed, or the incinerators closed down. Environmental groups were calling for portions of the waste stream to be recycled—for newer and more sophisticated methods of treating the waste to be utilized. But many of these newer methods of solid waste re-

removal are still in the experimental stage and portions of the recycled products are yet to find an economical market. The other means of solid waste removal, sanitary landfilling, meets with violent citizen objections. In many jurisdictions, sanitary landfills have been poorly operated and managed and their final use not properly planned.

Montgomery County, as are the other counties in Maryland, is presently preparing a ten year plan for solid waste removal. Since the County must close down its incinerator, as it is in violation with State air quality control standards, it must also provide a plan for removal of solid waste that is in compliance with State and Federal regulations. In the past two years, Montgomery County has investigated many of the newer methods of solid waste removal. These included the newest of the high heat incineration (pyrolysis) systems; a shredding and mixing method to create a soil supplement; a supplement which was an additive to a roofing compound; a project in Missouri which shredded the waste and used it as a supplement to coal for fuel in an electric generating plant. A railhauling concept was considered and its ramifications examined. In addition, various forms of recycling were studied. Small grants were given to local environmental groups for test recycling projects. Solicitation on a large scale was sponsored by the County (Project HEAP). Additional studies involved refuse collection and the transporting of the refuse so that as little of the population as possible is affected and that the methods not

be detrimental to the environment. Another area of concern involved specific disposal methods of pathological wastes, sludge, building debris, the immense problem of old tires, abandoned automobiles and refrigerators and similar unique items.

In completing the investigations, some of the results were disappointing. Many of the systems were only in the testing stages; some not even to that. There were problems yet to be worked out on many systems and it became evident that there were only a few that were actually working. The projects involving shredding and burning of the waste to create electricity or steam and the pyrolysis system were observed. The recycling projects involved volunteer citizen participation, which affected a small minority and there were unreliable economic fluctuations in the market for the materials collected. It was learned that no matter what system was utilized, a back-up landfill would be needed and, until a selected system was implemented, a landfill was needed in the interim.

Montgomery County, situated as one of the suburbs for the megalopolis of the Federal government is affected by growth more than other jurisdictions. In seeing that the needs of the County are attended to during the growth process, the solid waste problem must also be considered. This year, due to some of the local controversial issues, more Montgomery County citizens have awakened to these problems and realize that they can no longer be ignored. The

County has recommended to the State in its Ten Year Plan that a project utilizing shredded solid waste be fed into the boilers of the electric generating plant simultaneously with coal, creating electricity, and that before the waste is shredded, a separator be used to take the recyclables out of the waste stream. The County is preparing to establish recycling trailers in major shopping areas throughout the County in order that some of the bulk be eliminated from the waste stream. The use of a landfill has been recommended for the interim period and as a back-up during downtimes of the proposed system. Use of abandoned quarries is being considered for the non-putrescibles and an interim railhauling project is being considered.

ISSUES

► 1. *Is it reasonable to expect a substantial reduction in the cost of County solid waste management by applying modern technology to collection techniques? For example, the pneumatic collection system proposed in the Bethesda CBD Master Plan.*

► 2. *Should solid waste collection be subject to the Adequate Public Facilities Ordinance?*

► 3. *Is implementation of the current Ten Year Solid Waste Management Plan feasible? For example, is it reasonable to process all solid waste collected in the County at a single central processing facility (as specified in the current plan), or will the community and environmental impacts be prohibitive?*

Environment Panel

ENERGY

ENERGY

The energy findings provide a broad outline of the problems associated with the national energy shortage, particularly as Montgomery County residents may be affected. The issues suggest approaches which may need to be considered as well as areas in which further evaluation will be required.

Findings

FINDING I — The national energy shortage is not likely to be resolved for several years.

FINDING II — The national program to reduce energy consumption will have an effect on present Montgomery County residents and on future growth patterns, in a variety of ways.

FINDING III — Certain planned facilities use large amounts of electricity.

ISSUES

► 1. *Should our land use planning assumptions be modified to facilitate energy conservation?*

► 2. *In terms of energy conservation, what is the optimal urban design for Montgomery County?*

► 3. *How should potential conflicts between energy consumption and environmental quality issues be resolved? Does the County have alternative sources of energy that it is not now using?*

► 4. *Are there ways the County can become involved in developing and using new technology in energy conservation?*

A word of Thanks

The Panel is indebted to the following individuals and their agencies for the support they gave. Without the knowledge, background, and experience they shared with us in our deliberations, our paper would lack much of the depth and meaning we believe is there. We thank them heartily.

Jud Beavers, Montgomery County Department of Environmental Protection.

Richard A. Carpenter, Executive Director, Commission on Natural Resources, National Academy of Sciences.

Thomas D. McKewen, Director, Maryland Environmental Service.

Leon Billings, Senior Professional Staff Member, Subcommittee on Air and Water Pollution, Senate Public Works Committee.

Dr. Thomas P. Murphy, Professor and Director, Institute for Urban Studies, University of Maryland.

Dr. Robert W. Janes, Professor, Sociology, University of Maryland.

Dr. Charles M. Christian, Assistant Professor, Geography/Urban Studies, University of Maryland.

APPENDIX

Listed below are the individuals and representatives of County organizations who testified before the Advisory Committee in public forum, October 13 and October 27, 1973.

Phyllis Brush—League of Women Voters of Montgomery County
Howard Chenkin—Harmony Hills Civic Association
David A. Clunies—Seneca Valley Citizens Association
Hyman Cunin—Senior Citizens, Jewish Community Center
Alice Dixon—Zero Population Growth
Steven Frank—Allied Civic Group
Harry Gallant—Senior Citizens of Rockville
Mary Garrison
Patricia Gavett—League of Women Voters of Montgomery County
Gloria Gerecht—League of Women Voters of Montgomery County
James Goeden—Bethesda-Chevy Chase Chamber of Commerce
Fritz Gutheim—Sugarloaf Citizens Association
Paul Hayduk—Quince Orchard Valley Civic Association

Margaret Holmes—American Association of Retired Persons, Takoma Park Chapter
Fred W. Johansen
Helen Johnsen
Louise Lloyd
Marilyn Mazuzan—Town of Oakmont
Mary McGonigle—Governor's Committee for Employment of the Handicapped
Peg McRory—Suburban Maryland Fair Housing
Martha McShane—Layhill Village Civic Association
John L. Menke—Sugarloaf Citizens Association
John Mirguet
Stephen Petersen
Capt. Hank Phelps—Elm-Oakridge-Lynn Civic Association
Stanley Pickart—Patuxent Valley Citizens Association
Virginia Powers—Montgomery Village Foundation
Joseph Russek—Montgomery Citizens League
Eugene Sadick—TESS Community Service Center
James J. Schlesselman
Gerald Schneider
Robert Scrimgeour—Silver Spring Chamber of Commerce
Robert Shewmaker—Montgomery Village Citizens Association

Lee Shipman—Environmental Task Force, Maryland Coalition on National Priorities
George Simpson—Maryland Society of Professional Engineers
Charles E. Sites—Allied Civic Group
Joseph Slunt
David G. Spokely—Alliance for Rail Commuter Progress
Larry Stander—Suburban Maryland Homebuilders Association
Harold C. Wallach—Manor Woods Area Civic Association
Caroline Waller—Montgomery County Citizens Planning Association
Robert Werner—Governor's Committee for Employment of the Handicapped
Edwin F. Wesely—Canal and River Rights Council
Patricia Willard—Town of Oakmont

The following people submitted material in writing to the committee:

O. D. Field—Colesville Council of Community Congregations
R. Lawrence
Katheryn D. Mitchell—American Association of Retired Persons, Rossmoor Chapter
Donald Roha—Montgomery County Library Board

Montgomery County Planning Board
OF

THE MARYLAND



NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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